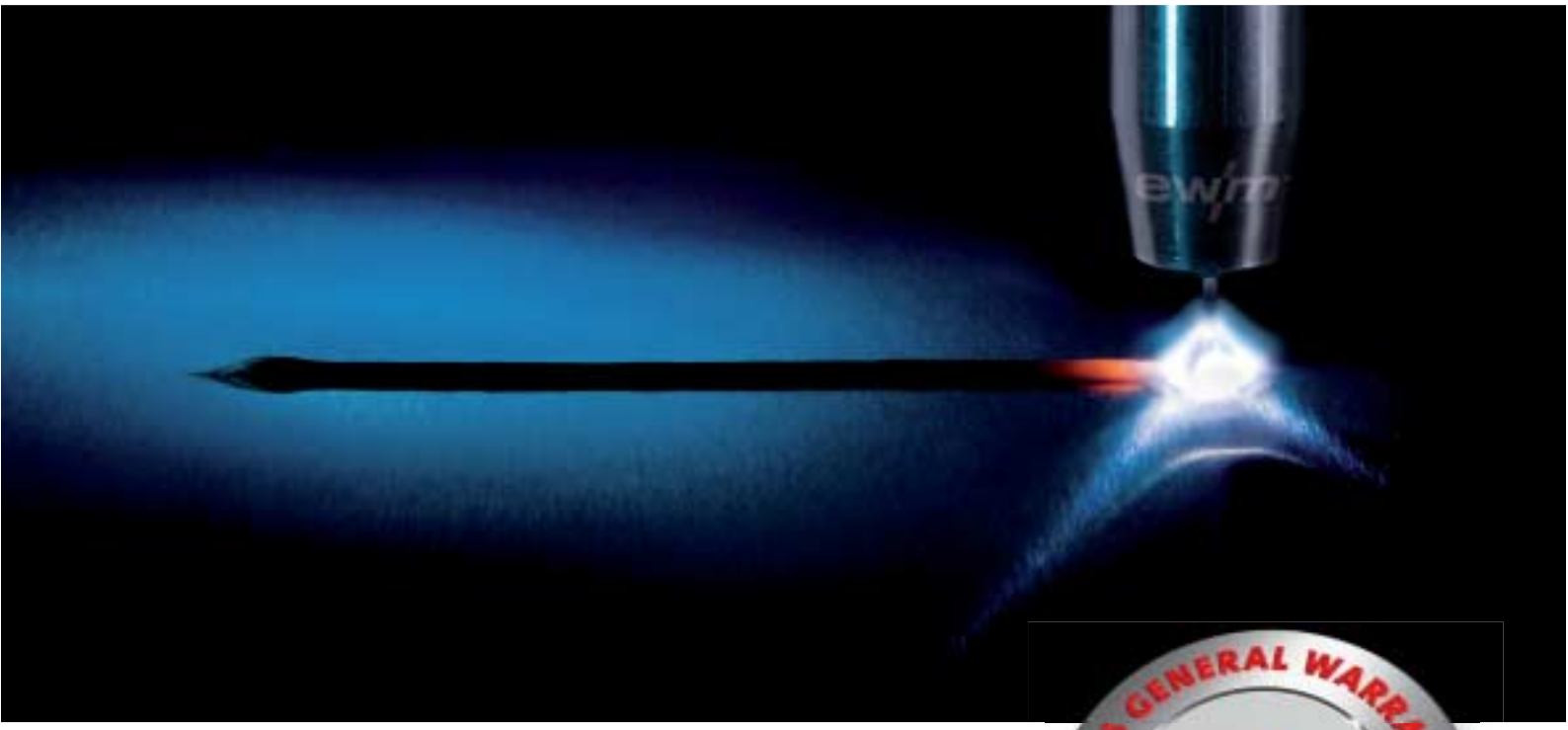
Product Catalogue 2009/2010



3rd edition

The Reason Behind the “EWM Total System Concept”.

Compromising on the quality of welding equipment doesn‘t pay long-term. Many of our customers found this out for themselves before choosing to place their trust in EWM. Rectifying welding errors is costly. Outmoded processes may create extra work, while hidden quality defects lead to unhappy customers and regress claims. Downtime due to machine failure is also expensive.

For this reason, we offer our customers a fully coordinated system where all components are systematically geared towards delivering consistently high welding quality, conserving resources and reducing the amount of work involved.

Points to consider when calculating the costs for the perfect weld bead.

EWM quality will save you money. You will benefit from extended service life, reduced down times, reduced process costs and a reduced consumption of gas and filler materials.

Because Quality Saves You Money.

EWM develops and produces **welding machines, wire feed units, torch systems and intermediate hose packages of the highest quality, offering you the maximum benefit** when it comes to your welding tasks.

Welding processes designed and patented by EWM such as:

coldArc®
forceArc®
in conjunction with pulse welding for MIG/MAG applications

or

activArc®
spotArc®
Focustig®
in conjunction with cold/hot wire for TIG applications

make it possible to handle welding tasks that were previously impossible.

Here highly dynamic voltage, current and wire values need to be transported to the welding arc without electrical loss or distortion, in some cases across large distances. It is easy to understand that **only perfectly optimised transfer elements** such as:

- **Intermediate hose packages**
- **Wire feed systems**
- **Welding torch systems**

can achieve the best possible results with regard to:

- **Minimal spatter**
- **Gap bridging**
- **Reduction in welding faults**
- **Reduction in post weld work**
- **Reduced distortion of the welded material**
- **Reduced consumption of materials, gas and energy**
- **Reduced consumption of wearing parts/consumables**

and therefore **maximum cost savings.**

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Detailed information on our individual machines and accessory components can be found on the Internet: www.ewm-group.com

MIG/MAG multi-process welding machines

alpha Q – all-in-one
Unique – from thin to thick – from stainless steel to lightweight alloys
Future-safe – new materials, new applications – whatever your future requirements

alpha Q - a welder's dream come true. This unique new technology joins anything from the thinnest panels to root layers, thick panels, new materials and mixed connections – all-round superb performance without the limitations of conventional welding power sources.

alpha Q – the ultimate in joining technology – combines the innovative coldArc and forceArc processes, rounded off with pulse arc.

Perfect results, and always cost-effective: for quality seams that are always reproducible, and so low-spatter that practically no finishing is required. This technology is also environmentally friendly, with large potential savings on material costs and high efficiency, ensuring a very good energy balance.

Overview

MIG/MAG multi-process welding machines portable

Design	Max. welding current	Product name	Cooling			Page
	A		gas cooled	Opti-onal cooling module	water cooled	
Compact	330	alpha Q 330	•	•	–	12

MIG/MAG multi-process welding machines mobile

Design	Max. welding current	Product name	Cooling			Page
	A		gas cooled	Opti-onal cooling module	water cooled	
Decompact	350	alpha Q 351	–	–	•	12
	550	alpha Q 551	–	–	•	13

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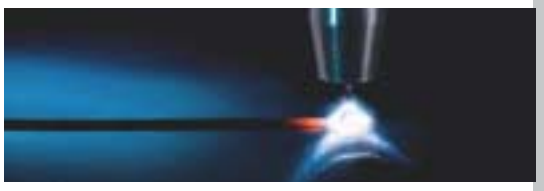
The ultimate in joining technology

alpha Q – the ideal system that can be flexibly configured for your application: from portable, modular or compact to mobile and decompact.
Different welding tasks on demand mean shorter set-up times. For alternating between coldArc and forceArc welding, one double wire feed unit or two individual units are available, so you always have the right filler wire and the right gas to hand.

alpha Q

Highlights

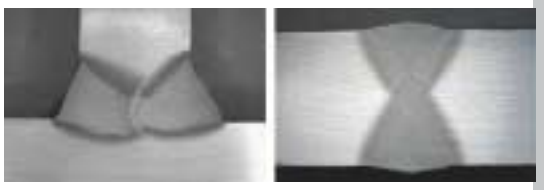


Hit the bull's-eye six times by welding with alpha Q

One power source, six processes: coldArc and forceArc, MIG/MAG pulse and standard, TIG(Liftarc) and MMA – ideally equipped for all applications.

coldArc – reduced-energy short arc for welding and brazing

A superb way of joining thin panels and root layers, steel, chrome/nickel, aluminium and mixed connections. coldArc also ensures a large air gap and offset edges in all layers.



forceArc – highly productive, impressive quality

Up to 50% lower production costs: a masterpiece of innovative MIG/MAG process engineering. Powerful forced arc, deep fusion penetration and virtually spatter-free weld seams of the highest quality.

coldArc + forceArc – a really smart combination

Two innovative welding processes, one power source, all seam types: coldArc, the specialist for perfect seam roots; forceArc for highly efficient fill and capping runs

Innovative pulse welding for stainless steel and aluminium

Controlled drop transfer and systematically adapted heat input are the key to obtaining the best welding results with stainless steel and aluminium. A first-class process: programmed pulse arc joining

Diverse range of accessories and options

Easy to use: with our power control welding torch, all programmes, user modes, procedures and up down functions are accessible through a button.

Advantages

Reduced-energy short arc

Reduced heat transfer – low distortion and minimal heat-affected zone – perfect for CrNi, super high strength steels and thin panels

Only the best for welding and brazing

Steel, CrNi, aluminium and mixed connections with copper and zinc solders

Universal in any position

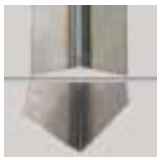
Perfect joins for all out-of-position welding – overhead, vertical-down and vertical-up welding, plus unprecedented gap filling capabilities

Universally applicable

Manual and automated – with normal commercial torch systems without elaborate wire feed components.

High degree of process reliability

Reproducible, X-ray-proof root welding e.g. in container and pipe construction



Outstanding results mean minimum finishing

Almost spatter-free – similar to TIG process, excellent formation of root layers and capping runs, no undercuts

The innovative coldArc® technology for manual and automated applications

coldArc® – The "low-energy" short circuit arc for welding and brazing

The special method of joining thin panels or welding root passes, steel, chrome/nickel, aluminium as well as mixed joints. coldArc® masters also large air gaps in all positions.

coldArc® + forceArc®
Perfect alone, together unbeatable

Two innovative welding processes, one alpha Q power source, all welded joints: coldArc®, the specialist for perfect and secure root welds, forceArc® for high levels of efficiency when welding the fill and capping runs.

Excellent gap bridging when welding root passes
- No excessive root build-up, even in horizontal position
- Good flank capture even with offset edges
- No wire piercing
- No un-welded wire deposits
- For thin panels and root welds, e.g. PC position

Can be used in any position
- Excellent arc controllability for positional welding
- Reduced weld seam preparation work – greater fit up tolerances

coldArc® + forceArc®-**combination in one machine**
- Root welding with coldArc®: full control of the droplet transfer, minimised risk of bonding faults, spatter-free welding
- Layer build-up with forceArc®: best possible penetration properties, result: an efficient weld with perfect properties

Virtually spatter-free process
- Digitally controlled, virtually powerless material transfer
- Reduced prep and post weld work
- Ideal for visible seams – finishing work becomes unnecessary

Secure joints with reduced heat transfer

HIGHLIGHTS

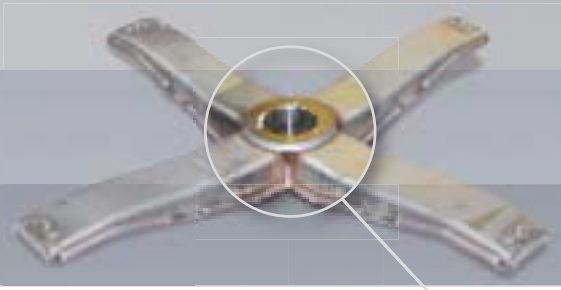
Reduced heat transfer
- Low distortion and minimal heat-affected zones – perfect for CrNi, high strength steels and thin panels

The best for welding and brazing
- Steel, zinc-plated steel, CrNi, aluminium and mixed joints

Universal in all positions
- All positional joining tasks – vertical down, vertical up and overhead welds

Start saving immediately by reducing your joint preparation costs
- Excellent gap bridging on thin panels, and root passes in plate or pipework applications

Minimize your post weld work
- Virtually spatter-free – close to TIG finish, excellent formation of root and capping runs, no undercut



Optimal energy and resource efficiency
- Savings on materials, gas, energy and wage costs
- Seam geometry can be influenced individually
- Efficient joining: smaller, narrower welds
- Reduced requirements for weld pool backing
- Long service life for spare and replacement parts

Reduced heat transfer
- Reduced gap transformation
- Less distortion
- Minimised heat-affected zones
- Reduced annealing discolouration and scaling
- Ideal for CrNi and high-strength steels

Excellent gap bridging when brazing sheet metal
- No excessive build up
- Good flank and edge capture
- For thin panels and root passes

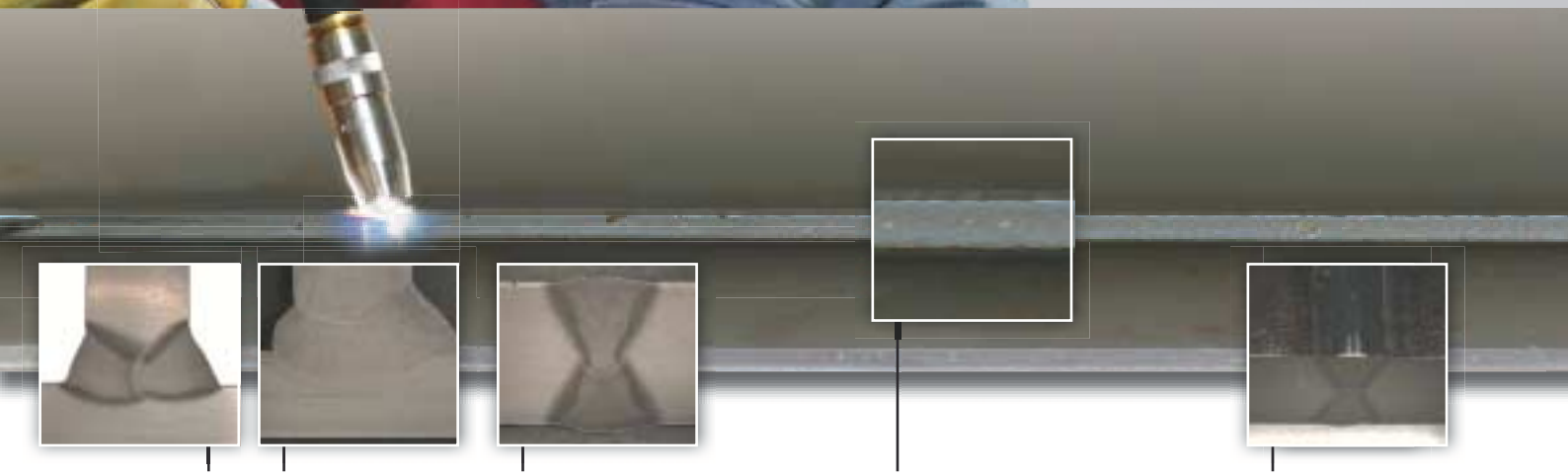
Heat-reduced brazing with innovative, low melting point, zinc-based solders
- No damage to the zinc coating
- Excellent corrosion resistance
- Minimum distortion
- Alternative to Cu-based alloys, with comparable strength

The innovative forceArc® technology for manual and mechanised applications

With forceArc® you can weld more economically, with better quality, and optimise your work processes! This combination of savings on materials, power and wage costs results in a noticeable reduction in manufacturing costs. All this means a rapid, calculable amortisation of your welding machines.

HIGHLIGHTS

- **Very narrow high pressure arc** – with deep fusion penetration and excellent root and edge formation
- **Exceptional directional arc stability –** for welding when extended wire stick-out lengths are required
- **Excellent seam quality –** virtually spatter-free, no undercuts and minimised heat-affected zone



No seam preparation – full connection
- No time needed for edge preparation
- Full connection without edge preparation
- Full connection: single layer welding – without the backing run normally required

Particularly advantageous, for example if due to corrosion risks, a backing run is normally required, useable over a large range of material thicknesses

Smaller edge preparation angles – fewer layers
- High potential for savings
- Minimised weld seam preparation
- Fewer layers
- Less filler material and shielding gas consumption
- Greatly reduced welding time
- Elimination of the weld support in most cases, when used to replace submerged arc welding

Extremely advantageous for thicker panels

Prevention of undercuts
- Exceptional seam quality, e.g. with fillet welds
- Optimal seam geometry

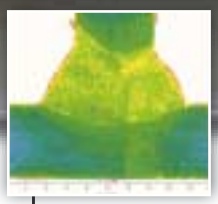
Particularly advantageous, e.g. with dynamically loaded components

Small heat-affected zones due to narrow and concentrated arc
- Less material distortion thanks to reduced heat input
- Reduced intermediate layer temperatures and minimised joint distortion

Particularly advantageous, e.g. when welding fine-grained steels

Weld more economically, with better quality and increased effectiveness

- **Optimised weld seam design modified for the process –** reduced seam volume due to smaller included angles for the edge preparation, and in some cases, total elimination of edge preparation
- **Cost-effective standard accessories and welding materials –** no exotic torches, gases or welding consumables are required
- **Lower manufacturing costs for the entire joining process –** reduction in preparation and finishing work as well as cost savings for wages, welding materials, gas and electrical energy
- **Significant time savings create increased manufacturing capacities for new contracts –** increase turnover and shorten delivery times
- **Standard in all** alpha Q, Phoenix **and** Taurus Synergic **welding machines for manual, mechanised and automated applications**
- **Additional cost-saving potential when using the EWM MT torch** thanks to extended service life for EWM torches due to the use of highest quality, self designed components. This naturally applies to spare and replaceable parts as well.



- **Secure root formation with the ideal seam geometry**
  - Particularly deep penetration and therefore possible reduction of the throat thickness or seam cross-section
  - Higher process safety – simple, safe handling
  - High process security, maintain penetration irrespective of changes in torch angle/distance

  Particularly advantageous, e.g. with very narrow joints and fillet welds as well as dynamically loaded components and hard to reach areas

- **Economic – virtually spatter-free welding**
  - Thanks to machine technology with highly dynamic control technology
  - Compatible with different materials and shielding gases
  - Smooth seam surface – e.g. for simple coating
  - Reduction of additional preparation and finishing work, reduction in wear and tear of finishing materials, **offering very high potential for savings**

- **Quality, load capacity, operating safety**
  - Homogeneous seam structure
  - Optimal seam geometry
  - Undercut-free, no pores, reduction in welding failures and cold laps

- **Directionally stable, smooth arc**
  - Even in tight and narrow joints
  - No arc blow onto the material flanks, even with long wire stickout lengths up to 40 mm
  - Fast and dynamic regulation of arc length and direction caused by changes in wire stickout length

  Particularly advantageous, e.g. for very narrow joints and fillet welds

alpha Q

- Six high-value welding processes – one machine
- coldArc – „reduced-energy" short arc for welding and brazing
- forceArc – the powerful forced arc. Improve quality and save up to 50% of production costs
- Self-explanatory operating concept – extremely practical for every user
- Extended duty cycle and top performance – up to 550 A welding current

alpha Q 330

Controls → 14
Options/accessories → 24
Technical data → 26

- Compact, gas-cooled (cooling module for water cooling and transport vehicle optionally available)
- 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires
- 5 m mains supply lead

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 16
Setting range for welding current	A	5 - 330
Duty cycle 40 °C		330 A / 40 %
Duty cycle 40 °C		270 A / 60 %
Duty cycle 40 °C		210 A / 100 %
Dimensions L x W x H	mm	685 x 335 x 750
Weight	kg	64

alpha Q 351

Controls → 14
Options/accessories → 24
Technical data → 26

- Mobile, can be lifted by crane and moved by fork lift
- Efficient cooling system with centrifugal pump and large 12 l tank. Pressure monitor, pump and temperature-controlled fan.

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 25
Setting range for welding current	A	5 - 350
Duty cycle 40 °C		350 A / 100 %
Dimensions L x W x H	mm	1100 x 455 x 1000
Weight	kg	125
Dimensions, wire feed unit L x W x H	mm	690 x 300 x 410
Weight, wire feed	kg	16.1

Pipe solution – no pipeline too long
The perfect solution with optimised JOBs for pipeline and pipe construction

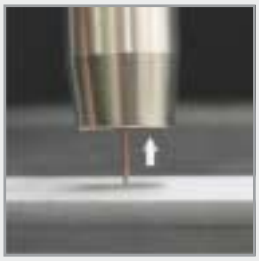
Super pulse – super bead
Super pulse technology with alternating welding current is the most effective MIG/MAG welding solution for many applications: visible seams with TIG appearance, secure root weldings and excellent gap filling

alpha Q 551

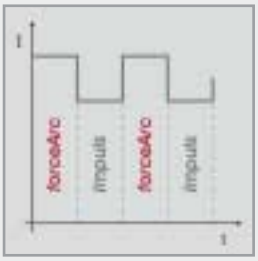
Controls → 14
Options/accessories → 24
Technical data → 27

- Mobile, can be lifted by crane and moved by fork lift
- Efficient cooling system with centrifugal pump and large 12 l tank. Pressure monitor, pump and temperature-controlled fan.

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 35
Setting range for welding current	A	5 - 550
Duty cycle 40 °C		550 A / 60 %
Duty cycle 40 °C		420 A / 100 %
Dimensions L x W x H	mm	1100 x 455 x 1000
Weight	kg	125
Dimensions, wire feed unit L x W x H	mm	690 x 300 x 410
Weight, wire feed	kg	16.1



MIG Liftarc ignition – high-precision, spatter-free ignition
Reliable and reproducible ignition results for manual applications



Super pulse – combine welding processes easily
Manual or automatic switching between different processes during welding

Machine control overview

Controls	alpha Q
Machines	
alpha Q 330	•
alpha Q 351	•
alpha Q 551	•

Control details

alpha Q

Wide range of possible applications with convenient operation

- 172 pre-programmed JOBs (welding tasks) with selection via JOB list
- All welding parameters and functions on the wire feed unit (decompact) or the welding machine (compact) can be adjusted
- 16 programs per JOB
- Synergic operation with clear, self-explanatory operating surface
- Reproducible setting of all welding parameters with digital displays
- Connection capability for torch and remote control, and for PC with welding data and documentation software
- Also ideal for mechanised and automatic applications

Control functions

Control	alpha Q
Functions	
General	
MIG/MAG	•
MIG/MAG pulse	•
TIG	•
MMA	•
EWM-forceArc	•
EWM-coldArc	•
Non-latched	•
Latched	•
Special non-latched	•
Special latched	•
Spots	•
Automatic cut-out	•
Synergic operation	•
Super pulse	•
MIG-Liftarc I	•
MIG-Liftarc II	•
Wire burn-back	•
Choke effect	•
Gas pre-flow time	•
Gas post-flow time	•
Correction of the arc length	•
Hold function	•
Ignition current	•
Upslope time	•
Main current	•
Secondary current	•
Downslope time	•
End current	•
Program duration	•
Material, Wire, Gas - settings via JOB-list	•
Gas test, currentless	•
Rinse tube package	•
Wire inching, currentless	•
2nd wire feed	•
Push/pull torch	•
Intermediate drive unit	•
Displays	
Welding current	•
Welding voltage	•
Wire speed	•
Metal sheet thickness	•
JOB number	•
Program number	•
Error code	•
Collective interference	•
Excess temperature	•
Water deficiency	•
MMA	
Hotstart	•
Arcforce	•
Antistick	•
TIG	
Gas pre-flow time	•
Ignition current	•
Main current	•
Secondary current	•
Downslope time	•
End current	•
Gas post-flow time	•

Options/accessories

Power sources	Item no.
alpha Q 330 MIG/MAG welding machine with coldArc and forceArc technology, portable, gas	090-005119-00502
alpha Q 351 MIG/MAG welding machine with coldArc and forceArc technology, mobile, water	090-005130-00502
alpha Q 551 MIG/MAG welding machine with coldArc and forceArc technology, mobile, water	090-005074-00502

Wire feed unit		Item no.
alpha Q Drive 4D Double wire feed unit • Two welding tasks with just one power source for alternating welding of e.g. root and cover seams, solid and cored wire, different materials and wire thicknesses • No changing of rollers, no torch conversion required, changeover times are greatly reduced • The torch trigger is used for changeover between the wire feeds; no special torch or changeover on the machine required! • 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires • Pin reel type D300 • Dimensions: L x W x H in mm, 680 x 530 x 460. Weight 48 kg		090-005121-00502
alpha Q Drive 4L WE Wire feed unit, water, Euro central connector • 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires • Pin reel type D300 • Dimensions: L x W x H in mm, 690 x 300 x 410. Weight 12 kg		090-005125-00502
alpha Q Drive 4 Wire feed unit, water, Euro central connector • 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires • Pin reel type D300 • Dimensions: L x W x H in mm, 680 x 460 x 265. Weight 24 kg		090-005144-00502
alpha Q Drive 200C Wire feed unit, water, Euro central connector • Adjustment of the gas quantity directly on the wire feed unit • 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires • Pin reel type D200 • Dimensions: L x W x H in mm, 580 x 290 x 360 Weight 12.5 kg		090-005142-00502
alpha Q Drive 300C Wire feed unit, water, Euro central connector • Adjustment of the gas quantity directly on the wire feed unit • 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires • Pin reel type D300 • Dimensions: L x W x H in mm, 740 x 290 x 480. Weight 13.5 kg		090-005143-00502

Intermediate tube packages		Item no.
70QMM MIG W 1M 7POL Intermediate tube package, for machines with water cooling, 7-pole		094-000406-00000
95QMM MIG W 1M 7POL Intermediate tube package, for machines with water cooling, 7-pole		094-000407-00000

Options/accessories

Torch		Item no.
MT300CG 2U/D EZA MIG/MAG welding torch, 2x up/down, gas-cooled • Setting wire-feed speed and welding voltage or correcting the voltage • With Phoenix Progress and Expert as well as alpha Q, programs and JOBs can also be optionally selected		094-500019-03300
MT300G EZA MIG/MAG welding torch, gas-cooled • Outstanding welding characteristics are ensured by a separate gas supply and optimal cooling by means of a profiled gas channels • Microswitch with gold-plated contacts and dust protection according to IP65 with defined pressure points for ultimate precision • Ergonomically formed grip plate takes the strain out of work		094-500019-00000
MT300G U/D EZA MIG/MAG welding torch, 1x up/down, gas-cooled • Setting the wire feed speed • With Phoenix Progress and Expert as well as alpha Q, programs can also be optionally selected		094-500019-00200
MT300G 2U/D EZA MIG/MAG welding torch, 2x up/down, gas-cooled • Setting wire-feed speed and welding voltage or correcting the voltage • With Phoenix Progress and Expert as well as alpha Q, programs and JOBs can also be optionally selected		094-500019-00300
MT300G PC1 EZA MIG/MAG welding torch, Powercontrol 1, gas-cooled • Display and setting wire feed speed or programs		094-500019-00400
MT300G PC2 EZA MIG/MAG welding torch, Powercontrol 2, gas-cooled • Displaying and setting wire feed speed and voltage correction or programs and JOBs (welding tasks)		094-500019-00700
MT400G U/D EZA MIG/MAG welding torch, 1x up/down, gas-cooled • Setting the wire feed speed • With Phoenix Progress and Expert as well as alpha Q, programs can also be optionally selected		094-500021-00200
MT400G 2U/D EZA MIG/MAG welding torch, 2x up/down, gas-cooled • Setting wire-feed speed and welding voltage or correcting the voltage • With Phoenix Progress and Expert as well as alpha Q, programs and JOBs can also be optionally selected		094-500021-00300
MT400G PC1 EZA MIG/MAG welding torch, Powercontrol 1, gas-cooled • Display and setting wire feed speed or programs		094-500021-00400
MT400G PC2 EZA MIG/MAG welding torch, Powercontrol 2, gas-cooled • Displaying and setting wire feed speed and voltage correction or programs and JOBs (welding tasks)		094-500021-00700

Torch	Item no.
MT450W EZA MIG/MAG welding torch, water-cooled • Outstanding welding characteristics thanks to separate gas supply and optimal cooling	094-500020-00000
MT450W 2U/D EZA MIG/MAG welding torch, 2 up/down, water-cooled • Water-cooled MIG/MAG welding torch • Setting wire-feed speed and welding voltage or correcting the voltage • With Phoenix Progress and Expert as well as alpha Q, programs and JOBs can also be optionally selected	094-500020-00300
MT550WR EZA MIG/MAG welding torch, water-cooled • Outstanding welding properties are ensured by a separate gas supply and optimal cooling by means of a parallel double-loop cooling system	094-500022-00000
MT550WR U/D EZA MIG/MAG welding torch, up/down, water-cooled • Setting the wire feed speed • With Phoenix Progress and Expert as well as alpha Q, programs can also be optionally selected	094-500022-00200
MT550WR 2U/D EZA MIG/MAG welding torch, 2 up/down, water-cooled • Water-cooled MIG/MAG welding torch • Setting wire-feed speed and welding voltage or correcting the voltage • With Phoenix Progress and Expert as well as alpha Q, programs and JOBs can also be optionally selected	094-500022-00300
MT550WR PC1 EZA MIG/MAG welding torch, Powercontrol 1, water-cooled • Display and setting wire feed speed or programs	094-500022-00400
MT550WR PC2 EZA MIG/MAG welding torch, Powercontrol 2, water-cooled • Displaying and setting wire feed speed and voltage correction or programs and JOBs (welding tasks)	094-500022-00700
MT550WLR U/D EZA MIG/MAG welding torch, up/down, water-cooled • Setting the wire feed speed • With Phoenix Progress and Expert as well as alpha Q, programs can also be optionally selected	094-500022-20200
MT550WLR 2U/D EZA MIG/MAG welding torch, 2 up/down, water-cooled • Water-cooled MIG/MAG welding torch • Setting wire-feed speed and welding voltage or correcting the voltage • With Phoenix Progress and Expert as well as alpha Q, programs and JOBs can also be optionally selected	094-500022-20300
MT550WLR PC1 EZA MIG/MAG welding torch, Powercontrol 1, water-cooled • Display and setting wire feed speed or programs	094-500022-20400

Options/accessories

Torch	Item no.
MT550WLR PC2 EZA MIG/MAG welding torch, Powercontrol 2, water-cooled • Displaying and setting wire feed speed and voltage correction or programs and JOBs (welding tasks)	094-500022-20700

Remote control	Item no.
R10 Remote control, wire feed rate correction • Robust metal casing with rubber feet, stirrup and holding magnet, 19-pole connection socket	090-008087-00000
R20 Remote control, program switching • Robust metal casing with rubber feet, stirrup and holding magnet, 19-pole connection socket • Changeover and display of up to ten welding programmes	090-008263-00000
R40 Remote control, 16 programs • Robust metal casing with rubber feet, stirrup and holding magnet, 7-pole connection socket • Change over, display, create or modify up to 16 welding programs • Switch super pulse function on or off • Changeover between standard MIG welding and pulse arc MIG welding	090-008088-00000
FRV10-L 7POL 10M Extension/connection cable	092-000201-00000
RA5 19POL 5M Remote control e.g. connection cable	092-001470-00005

Cooling module	Item no.
COOL71 U43 Cooling module with centrifugal pump • Modular design, tool-free assembly • Cooling capacity 1 l/min: 1200 W, max. flow rate: 5 l/min, max. output pressure: 3.5 bar, 7 l tank capacity • Dimensions L x W x H in mm, 685 x 335 x 255 Weight 25 kg	090-008220-00502
COOL71 U42 Air cooling unit with centrifugal pump and reinforced cooling • Modular design, tool-free assembly • Cooling capacity 2 l/min: 1500 W, max. flow rate: 20 l/min, max. output pressure: 4.5 bar, 7 l tank capacity • Dimensions L x W x H in mm, 685 x 335 x 255 Weight 25 kg	090-008201-00502

Transport vehicle	Item no.
Trolly 75 B1 Transport vehicle disassembled, boxed, for power source + 1 module + 1 gas cylinder • Solid, stable design • For transporting a power source, a cooling module and a gas cylinder • Dimensions L x W x H in mm, 980 x 505 x 990. Weight 34 kg	090-008176-00001

Options for retrofitting		Item no.
ON FILTER T/P Dirt filter for air inlet • Reliably protects the machine from impurities under tough working conditions.		092-002092-00000
ON SET KRAN HOR Cross arm for horizontal suspension of the machine • To mount the welding machine, e.g. directly above the workplace.		092-001832-00000
ON SET KRAN HOR/VER 330 alpha Q Cross arm for horizontal or vertical suspension of the machine. With impact protection • To mount the welding machine, e.g. directly above the workplace.		092-002393-00000
ON WHEELS PHOENIX 330 Wheel assembly kit for PHOENIX 330 machine series • Wheel set – facilitates work at frequently changing welding sites		092-002387-00000
ON FSB WHEELS W/T/P Locking brake for machine wheels • Front wheels with locking brake allow the machine to be safely parked even on uneven ground.		092-002110-00000
ON HOSE/FR MOUNT Mount for tubes and remote control for machines without star handle • Keeps the machine in a tidy condition: tubes and cables of e.g. welding torches or remote controls can be coiled in an orderly way on the machine. Also helps to fix remote controls in place		092-002116-00000
ON HOSE/FR MOUNT DK 4L Mount for hoses and remote controls for machines with 4L star handle (092-002112-00000) • Keeps the machine in a tidy condition: tubes and cables of e.g. welding torches or remote controls can be coiled in an orderly way on the machine. Also helps to fix remote controls in place		092-002117-00000
ON DK DRIVE 4L T/P Star handle for housing a Drive 4L type wire feed unit • Swivel mounting of the wire feed unit on the welding machine		092-002112-00000
ON DK PHOENIX DRIVE 4 Star handle for housing a Drive 4 type wire feed unit • Swivel mounting of the wire feed unit on the welding machine		092-002280-00000
ON DK PHOENIX DRIVE 4 WHEELS Set of star handle and wheel kit for Drive 4 type wire feed units • Swivel mounting of the wire feed unit on the welding machine		092-002284-00000

Options/accessories

Options for retrofitting		Item no.
ON HOLDER GAS BOTTLE <50L Holding plate for gas cylinders smaller than 50 litres • Transport even small gas cylinders safely on the machine		092-002151-00000
ON SHOCK PROTECT Ram protection • Protects the machine from scratches and dents. Highly recommended if the machine is transported frequently		092-002154-00000
ON TOOL BOX Toolbox between gas cylinder and rear casing panel • Tools and torch replaceable parts always to hand. • Dimensions L x W x H in mm: 240 x 100 x 80		092-002138-00000

Factory-fit options		Item no.
OW REINFORCED PUMP T/P Heavy-duty coolant pump (only ex works) • Recommended for long hose packages. Increases the flow rate to up to 20 l/min and the pressure to max. 4.5 bar		092-002118-00001

Wire feed unit options		Item no.
ON RMSDDV1 Wheel assembly kit for DRIVE 4 • Wheel set – facilitates work at frequently changing welding sites		090-008035-00000
ON RMSDV2 Wheel assembly kit for DRIVE 4L • Wheel set – facilitates work at frequently changing welding sites		090-008151-00000

Mains plug		Item no.
5POLE/CEE/32A/M Mains plug		094-000207-00000

Coolant		Item no.
KF 23E-10, -10° Coolant (-10 °C), 9.3 l		094-000530-00000
KF 23E-200, -10° Coolant (-10 °C), 200 l		094-000530-00001
KF 37E-10, -20° Coolant (-20 °C), 9.3 l		094-006256-00000

General		Item no.
DM1 32L/MIN Manometer pressure reducer • Single-stage pressure reducer for use with standard MIG/MAG welding equipment		094-000009-00000
AK300 Adapter for K300 basket coil		094-001803-00001

Machine-dependent

Machines	Page	alpha Q 330	alpha Q 351	alpha Q 551
Wire feed unit				
alpha Q Drive 4D	→ 17	–	•	•
alpha Q Drive 200C	→ 17	–	•	•
alpha Q Drive 4L WE	→ 17	–	•	•
alpha Q Drive 300C	→ 17	–	•	•
alpha Q Drive 4	→ 17	–	•	•
Intermediate tube packages				
70QMM MIG W 1M 7POL	→ 17	–	•	–
95QMM MIG W 1M 7POL	→ 17	–	–	•
Torch				
MT300G EZA	→ 18	•	–	–
MT450W EZA	→ 19	–	•	–
MT550WR EZA	→ 19	–	–	•
Cooling module				
COOL71 U42	→ 20	•	–	–
COOL71 U43	→ 20	•	–	–
Transport vehicle				
Trolly 75 B1	→ 20	•	–	–
Options for retrofitting				
ON SET KRAN HOR/VER 330 alpha Q	→ 21	•	–	–
ON WHEELS PHOENIX 330	→ 21	•	–	–
ON SET KRAN HOR	→ 21	•	–	–
ON DK PHOENIX DRIVE 4	→ 21	–	•	•
ON DK PHOENIX DRIVE 4 WHEELS	→ 21	–	•	•
ON DK DRIVE 4L T/P	→ 21	–	•	•
ON FILTER T/P	→ 21	–	•	•
ON FSB WHEELS W/T/P	→ 21	–	•	•
ON HOLDER GAS BOTTLE <50L	→ 22	–	•	•
ON HOSE/FR MOUNT	→ 21	–	•	•
ON HOSE/FR MOUNT DK 4L	→ 21	–	•	•
ON SHOCK PROTECT	→ 22	–	•	•
ON TOOL BOX	→ 22	–	•	•
Factory-fit options				
OW REINFORCED PUMP T/P	→ 22	–	•	•
Wire feed unit options				
ON RMSDV2	→ 22	–	•	•
ON RMSDDV1	→ 22	–	•	•
Mains plug				
5POLE/CEE/32A/M	→ 22	•	•	•
Coolant				
KF 23E-10, -10°	→ 22	•	•	•
KF 23E-200, -10°	→ 22	•	•	•
KF 37E-10, -20°	→ 23	•	•	•
General				
AK300	→ 23	•	•	•
DM1 32L/MIN	→ 23	•	•	•

Control-dependent

Controls	Page	alpha Q
Wire feed unit		
alpha Q Drive 4D	→ 17	•
alpha Q Drive 200C	→ 17	•
Torch		
MT300CG 2U/D EZA	→ 18	•
MT300G 2U/D EZA	→ 18	•
MT400G 2U/D EZA	→ 18	•
MT450W 2U/D EZA	→ 19	•
MT550WR 2U/D EZA	→ 19	•
MT550WLR 2U/D EZA	→ 19	•
MT300G PC2 EZA	→ 18	•
MT400G U/D EZA	→ 18	•
MT550WR PC2 EZA	→ 19	•
MT400G PC1 EZA	→ 18	•
MT400G PC2 EZA	→ 18	•
MT550WLR PC2 EZA	→ 20	•
MT300G U/D EZA	→ 18	•
MT550WR U/D EZA	→ 19	•
MT550WLR PC1 EZA	→ 19	•
MT300G PC1 EZA	→ 18	•
MT550WR PC1 EZA	→ 19	•
MT550WLR U/D EZA	→ 19	•
Remote control		
R10	→ 20	•
RA5 19POL 5M	→ 20	•
R20	→ 20	•
R40	→ 20	•
FRV10-L 7POL 10M	→ 20	•

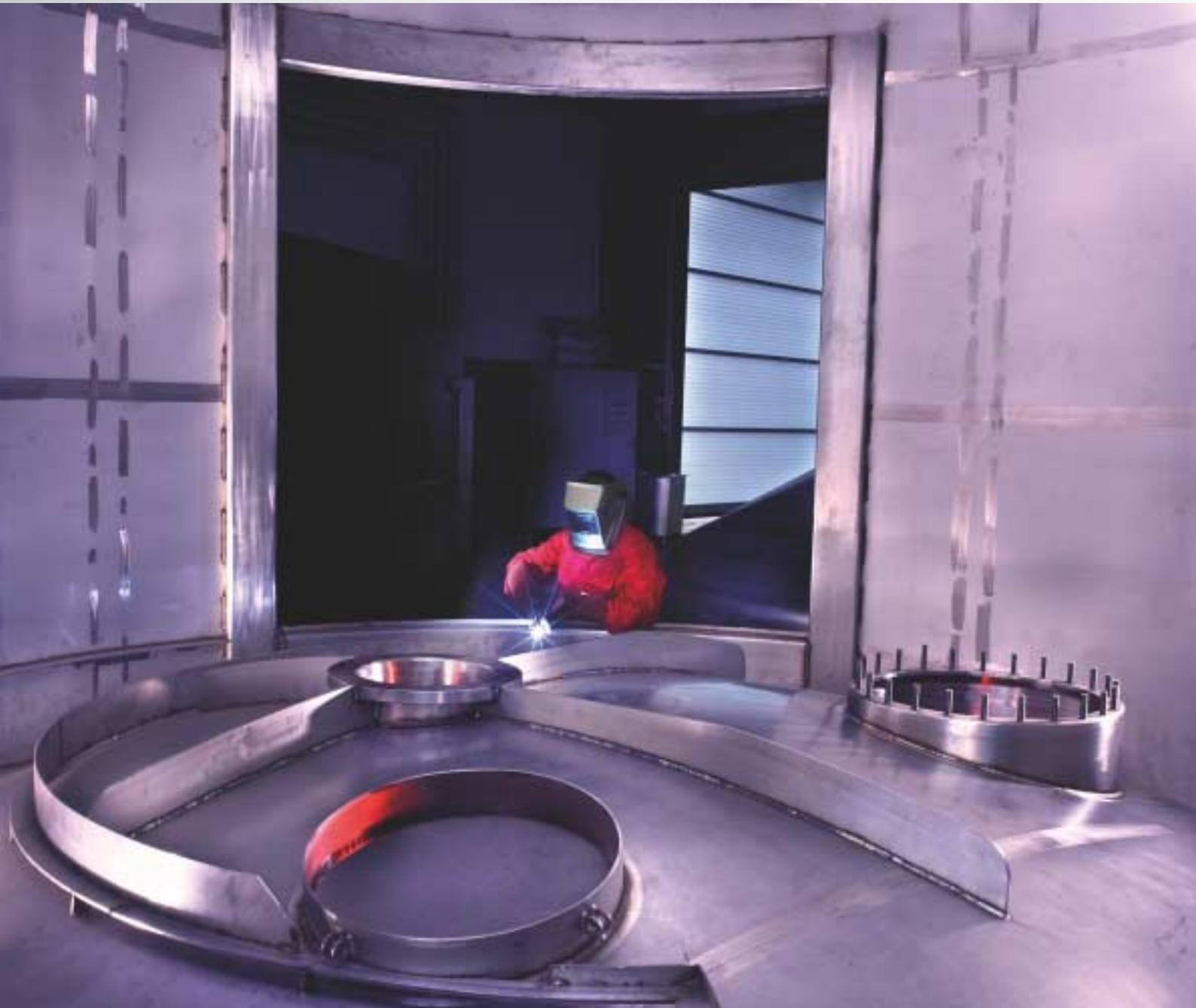
Technical data

		alpha Q 330			alpha Q 351					
		MIG/MAG	TIG	MMA	MIG/MAG		TIG		MMA	
Setting range for welding current	A	5 - 330	5 - 330	5 - 330	5 - 350		5 - 350		5 - 350	
Duty cycle at ambient temperature	°C	40	40	40	25	40	25	40	25	40
40 %	A	330	330	330	–	–	–	–	–	–
60 %	A	270	270	270	–	–	–	–	–	–
100 %	A	210	210	210	350	350	350	350	350	350
Mains frequency	Hz	50 / 60			50 / 60					
Mains fuses (slow-blow)	A	3 x 16			3 x 25					
Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)			3 x 400 V (-25 % - +20 %)					
Max. connected load	kVA	12.7	9.7	13.8	13.9		10.6		15	
Recommended generator power	kVA	18.7			20.3					
Wire drive rollers		4			4					
Wire speed	m/min	0.5 - 24			0.5 - 24					
Dimensions, machine, L x W x H	mm	685 x 335 x 750			1100 x 455 x 1000					
Weight, machine	kg	64			125					
Weight, wire feed	kg	–			16.1					
Protection classification		IP 23			IP 23					
Insulation class		H			H					
Torch connection		Euro central			Euro central					
Cooling output	W	–			1500					
Tank capacity	l	–			12					
Flow rate	l/min	–			5					
Max. output pressure	bar	–			3.5					
Standards		IEC 60 974-1 / IEC 60 974-5 / IEC 60 974-10 / CE / S-Safety sign			IEC 60 974-1 / IEC 60 974-2 / IEC 60 974-10 / CE / S-Safety sign					

		alpha Q 551					
		MIG/MAG		TIG		MMA	
Setting range for welding current	A	5 - 550		5 - 550		5 - 550	
Duty cycle at ambient temperature	°C	25	40	25	40	25	40
60 %	A	550	550	550	550	550	550
80 %	A	520	–	520	–	520	–
100 %	A	450	420	450	420	450	420
Mains frequency	Hz	50 / 60					
Mains fuses (slow-blow)	A	3 x 35					
Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)					
Max. connected load	kVA	28.8		22.2		29.2	
Recommended generator power	kVA	39.4					
Wire drive rollers		4					
Wire speed	m/min	0.5 - 24					
Dimensions, machine, L x W x H	mm	1100 x 455 x 1000					
Weight, machine	kg	125					
Weight, wire feed	kg	16.1					
Protection classification		IP 23					
Insulation class		H					
Torch connection		Euro central					
Cooling output	W	1500					
Tank capacity	l	12					
Flow rate	l/min	5					
Max. output pressure	bar	3.5					
Standards		IEC 60 974-1 / IEC 60 974-2 / IEC 60 974-10 / CE / S-Safety sign					

MIG/MAG pulse welding machines

Phoenix and Picomig – High-tech synergic welding power sources, by professionals for professionals
Cost-effective and kind to the environment – fully digital MIG/MAG welding power sources with pulse arcs from innovation leader EWM are the ultimate in joining technology. They precisely determine droplet size and frequency of material transfer over the entire power range – from the lowest current to the power limit. The pulse arc is fully short circuit-proof. And the result is always first-class: low-spatter quality seams that are always reproducible, plus minimal finishing work on all joinable metals.



Overview

MIG/MAG pulse welding machines portable

Design	Max. welding current	Product name	Cooling			Page
	A		gas cooled	Opti-onal cooling module	water cooled	
Compact	180	Picomig 180 Puls	•	–	–	32
	330	PHOENIX 330 PULS	•	•	–	32

MIG/MAG pulse welding machines mobile

Design	Max. welding current	Product name	Cooling			Page
	A		gas cooled	Opti-onal cooling module	water cooled	
Compact	300	Phoenix 301 Car Expert	•	–	–	38
Decompact	350	Phoenix 351 Puls	–	–	•	36
	450	Phoenix 451 Puls	–	–	•	36
	550	Phoenix 551 Puls	–	–	•	37
		Phoenix 551 Puls Highspeed	–	–	•	37

Product details	Page
Controls	39
Machine control overview	39
Control details	40
Control functions	45
Options/accessories	55
Details	46
Machine-dependent	55
Control-dependent	57
Technical data	58

Phoenix covers every need

Construction site, assembly, workshop, production site – the right machine for every location and every task. Can be expanded at any time with cooling module and transport vehicle – no need for tools or specialist personnel

Picomig

Highlights

Ideal for self-shielding cored wires

Cost-effective – open-air welding tasks can be performed with MMA as well as with cored wire in the MIG/MAG welding process

Innovative pulse welding for stainless steel and aluminium

The perfect pulse welding job guarantees superb welding results when joining stainless steel and aluminium thanks to controlled drop transfer and targeted, adapted heat input

Picomig 180 pulse – the professional solution for construction sites and assembly

Small, light, universal – the plastic casing and innovative inverter technology make this the perfect tool for practical applications.

Picomig 180 pulse – professionally equipped

Four full welding processes: MIG/MAG pulse, standard, MMA and TIG (Liftarc) welding in a single machine

Phoenix – multi-talented

MIG/MAG pulse, standard, forceArc plus TIG(Liftarc) and MMA – five processes, one power source

Phoenix - diverse range of accessories and options

Easy to use: with our power control welding torch, all programmes, user modes, procedures and up down functions are accessible through a button.

Advantages

Picomig 180 – ideal for self-shielding cored wires

Tool-free pole reversal and cored wire characteristics as standard

100% suitable for construction sites

Perfect for large construction sites and very tough assembly work with long mains supply leads or connected directly to a generator. High tolerance to mains fluctuations ensures a perfect welding result.

Powerful

4-roller drive unit with large roller diameter for reliable wire guidance

Total convenience

No tools required for roller change, Each roller is suitable for two different wire diameters

Practical central connector

Plug-in welding torch for easy exchange of liners and plastic cores

Easy servicing and maintenance

Rapid changeover of welding accessories thanks to connection sockets for welding torches and workpiece lead

Picomig/Phoenix portable

- Highly straightforward Synergic operation
- Four full-value welding processes
- Compact – integrated wire feed
- forceArc – the powerful forced arc. Improve quality and save up to 50% of production costs

Picomig 180 Puls

Controls → 39
Options/accessories → 55
Technical data → 58

- Portable, compact, gas-cooled
- Polarity selection and display: superb for welding self-shielding cored wires
- 4-roller wire feed Equipped for 0.8 mm + 1.0 mm steel wires
- Pin reel type D200

Mains voltage (tolerances)		1 x 230 V (-40 % - +15 %)
Mains fuses (slow-blow)	A	1 x 16
Setting range for welding current	A	5 - 180
Duty cycle 40 °C		180 A / 25 %
Duty cycle 40 °C		120 A / 60 %
Duty cycle 40 °C		100 A / 100 %
Dimensions L x W x H	mm	685 x 280 x 360
Weight	kg	15

PHOENIX 330 PULS

Controls → 39
Options/accessories → 55
Technical data → 58

- 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires
- 5 m mains supply lead

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 16
Setting range for welding current	A	5 - 330
Duty cycle 40 °C		330 A / 40 %
Duty cycle 40 °C		270 A / 60 %
Duty cycle 40 °C		210 A / 100 %
Dimensions L x W x H	mm	685 x 335 x 520
Weight	kg	42.5

Picomig 180 – easy-to-handle Synergic operation
With extensive functions, non-latched, latched, spot, interval

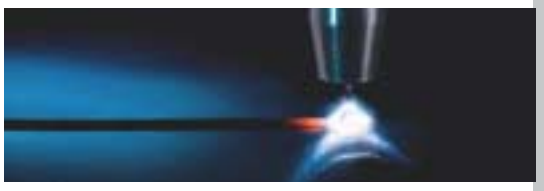
Phoenix 330 – combine as required
Easy combination with e.g. cooling modules or transport vehicles – no specialist staff or tools required and no need to open the welding machine. Innovative and easy to expand to meet future needs.

The ultimate in joining technology

3-in-1 casing concept means power source, transport vehicle and cooling unit are combined in one unit for easy transport and handling. Optimised air guidance ensures greater cooling performance, providing longer duty cycles as well as less soiling in the machine. Easy handling is guaranteed by self-explanatory controls.
All-round performance for tough practical use

Phoenix

Highlights

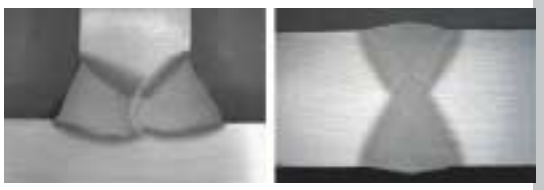


Multi-talented

MIG/MAG pulse, standard, forceArc plus TIG and MMA – five processes, one power source.

Self-explanatory, intuitive operating concepts

Concept – setting of essential parameters directly at the wire feed unit
Progress – all settings are available at the wire feed unit
Expert – optionally wire feed operation M3.00 reduced to the essentials or M3.70 with extended settings

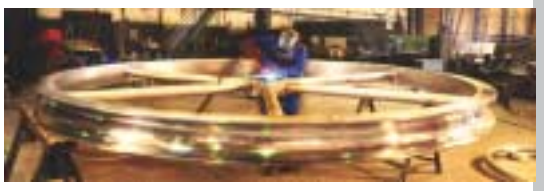


forceArc – highly productive, impressive quality

Up to 50% lower production costs: a masterpiece of innovative MIG/MAG process engineering. Powerful forced arc, deep fusion penetration and virtually spatter-free weld seams of the highest quality.

Lightweight but strong

Particularly reliable joining of aluminium with controlled heat feeding thanks to the optimised pulse shapes of the welding current. The sophisticated start program with high ignition pulse current ensures reliable ignition at all times.



Innovative pulse welding for stainless steel and black-white

The perfect pulse welding job guarantees optimum welding results in jointing stainless steel as well as black and white connections thanks to controlled drop transfer and targeted, adapted heat input.

Phoenix - diverse range of accessories and options

Easy to use: with our power control welding torch, all programmes, user modes, procedures and up down functions are accessible through a button.

Advantages

Extra-large 12 litre tank

Trouble-free commissioning even with long tube packages and safe operation at high temperatures and during extended duty cycles

4 lifting lugs as standard

100% mobile for transportation in production halls and shipyards with restricted access

Connected in no time

Screw and plug-in connections for intermediate hose package located externally on wire feed

Mobility for any location

Large wheels for easy running – even on very uneven surfaces. Same gauge on front and rear wheels facilitates transport

Total convenience

No tools required for roller change, Each roller is suitable for two different wire diameters

Multi-functional, ergonomic handle system

Effortless running, practical holder for hose packages, impact protection

Phoenix, mobile

- Five full welding processes – one machine
- EWM forceArc – the powerful forced arc. Improve quality and save up to 50% in production costs
- Three self-explanatory operating concepts to choose from – Concept, Progress, Expert – practical for every user
- Extended duty cycle and top performance – up to 550 A welding current

Phoenix 351 Puls

Controls → 39
Options/accessories → 55
Technical data → 58

- Mobile, can be lifted by crane and moved by fork lift
- 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires
- Efficient cooling system with centrifugal pump and large 12 l tank. Pressure monitor, pump and temperature-controlled fan.

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 25
Setting range for welding current	A	5 - 350
Duty cycle 40 °C		350 A / 100 %
Dimensions L x W x H	mm	1100 x 455 x 1000
Weight	kg	125
Dimensions, wire feed unit L x W x H	mm	690 x 300 x 410
Weight, wire feed	kg	15.1

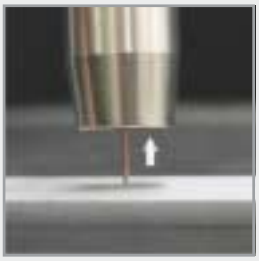
Phoenix 451 Puls

Controls → 39
Options/accessories → 55
Technical data → 59

- Mobile, can be lifted by crane and moved by fork lift
- 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires
- Efficient cooling system with centrifugal pump and large 12 l tank. Pressure monitor, pump and temperature-controlled fan.

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 35
Setting range for welding current	A	5 - 450
Duty cycle 40 °C		450 A / 80 %
Duty cycle 40 °C		420 A / 100 %
Dimensions L x W x H	mm	1100 x 455 x 1000
Weight	kg	125
Dimensions, wire feed unit L x W x H	mm	690 x 300 x 410
Weight, wire feed	kg	15.1

Super pulse – super bead
Super pulse technology with alternating welding current is the most effective MIG/MAG welding solution for many applications: visible seams with TIG appearance, secure root weldings and excellent gap filling



MIG Liftarc ignition – high-precision, spatter-free ignition
Reliable and reproducible ignition results for manual applications

Phoenix 551 Puls

Controls → 39
Options/accessories → 55
Technical data → 59

- Mobile, can be lifted by crane and moved by fork lift
- 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires
- Efficient cooling system with centrifugal pump and large 12 l tank. Pressure monitor, pump and temperature-controlled fan.

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 35
Setting range for welding current	A	5 - 550
Duty cycle 40 °C		550 A / 60 %
Duty cycle 40 °C		420 A / 100 %
Dimensions L x W x H	mm	1100 x 455 x 1000
Weight	kg	125
Dimensions, wire feed unit L x W x H	mm	690 x 300 x 410
Weight, wire feed	kg	15.1

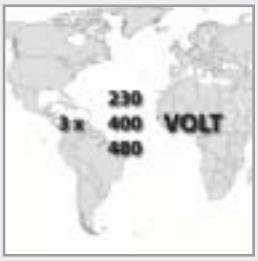
Phoenix 551 Puls Highspeed

Controls → 39
Options/accessories → 55
Technical data → 60

- Multi-process: High performance MIG/MAG, MIG/MAG, TIG Liftarc and MMA
- Mobile, can be lifted by crane and moved by fork lift
- Wire speed up to 30 m/min for high deposition rates
- 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 35
Setting range for welding current	A	5 - 550
Duty cycle 40 °C		550 A / 60 %
Duty cycle 40 °C		420 A / 100 %
Dimensions L x W x H	mm	1100 x 455 x 1000
Weight	kg	125
Dimensions, wire feed unit L x W x H	mm	680 x 460 x 265
Weight, wire feed	kg	24.5

High deposition rate – 15 kg per hour
Highspeed takes over where other processes reach their limits: wire speed up to 30 m/min



Multi-voltage capability – the ideal solution
Multi-voltage version for different national grids. 3 x 230 V, 400 V, 480 V (option, ex works)

Vehicle body repair

- Optimised operating surface in the language of vehicle body construction technicians shortens repair times and prevents errors
- All the necessary welding processes in one machine: MAG welding, MIG brazing and MIG welding
- Future-focused – software „update" capability for e.g. new manufacturer-specific characteristics and programs

Phoenix 301 Car Expert

Controls → 39
Options/accessories → 55
Technical data → 60

- MIG welding of aluminium (1.0 to 5.0 mm)
- MIG brazing on plated and unplated panels (0.8 to 3.0 mm)
- MAG welding for all steel panels (0.8 mm to 5.0 mm)
- 4-roller wire feed Equipped for 0.8 mm + 1.0 mm steel wires

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 16
Setting range for welding current	A	5 - 300
Duty cycle 40 °C		300 A / 60 %
Duty cycle 40 °C		250 A / 100 %
Dimensions L x W x H	mm	930 x 460 x 730
Weight	kg	69.5

MIG welding torch Car Control
Welding torch with integrated remote control and display to select seam types/ programmes directly at the workplace

Quickfix for PERFECT DENT REMOVAL
Perfect reshaping of deformed vehicle body areas accessible from only one side!

Machine control overview

Controls	Picomig	Progress	Concept	Expert	Car Expert
Machines					
Picomig 180 Puls	•	–	–	–	–
PHOENIX 330 PULS	–	•	–	–	–
Phoenix 351 Puls	–	•	•	•	–
Phoenix 451 Puls	–	•	•	•	–
Phoenix 551 Puls	–	•	•	•	–
Phoenix 551 Puls Highspeed	–	•	–	–	–
Phoenix 301 Car Expert	–	–	–	–	•

Control details

Picomig

Simplest possible operation with maximum ease-of-use

- All welding parameters and functions can be adjusted on the welding machine
- 32 pre-programmed JOBs (welding tasks) with selection via JOB list
- Synergic operation with clear, self-explanatory operating surface
- Reproducible setting of all welding parameters with digital display

Progress

Wide range of possible applications with convenient operation

- 115 pre-programmed JOBs (welding tasks) with selection via JOB list
- All welding parameters and functions on the wire feed unit (decompact) or the welding machine (compact) can be adjusted
- 16 programs per JOB
- Synergic operation with clear, self-explanatory operating surface
- Reproducible setting of all welding parameters with digital displays
- Connection capability for torch and remote control, and for PC with welding data and documentation software
- Also ideal for mechanised and automatic applications

Control details

Concept

Ideal for manual applications

- All welding parameters and functions can be adjusted on the welding machine
- 115 pre-programmed JOBs (welding tasks) with selection via JOB list
- 16 programs per JOB
- Synergic operation with clear, self-explanatory operating surface
- Reproducible setting of all welding parameters with digital displays
- Connection capability for torch and remote control, for setting the wire feed speed and correcting the arc length

Expert

Very straightforward and extremely convenient to use – ideal for frequently changing welding tasks

- JOB (welding task) selection via self-explanatory operating surface with user support
- 128 pre-programmed and 128 customised JOBs can be selected directly on the welding machine
- Welding parameters and functions can be set both on the welding machine and on the wire feed
- 16 programs per JOB
- Direct access to 3 special JOBs
- Synergic operation
- Reproducible setting of all welding parameters with digital displays
- Connection capability for torch and remote control, and for PC with welding data and documentation software
- Also ideal for mechanised and automatic applications

Control details

Car Expert

Optimised operation ideally matched to the demands of vehicle body repair

- Direct selection of vehicle-specific parameters for vehicle body repair in the„language“ of vehicle body construction technicians
- Pre-defined, programmed, manufacturer-specific welding and brazing parameters make time-consuming searches in tables and executing settings a thing of the past, can be called up directly from the torch at the site of work
- Customised, simple-to-use options for saving manufacturer-specific characteristics and programs
- Synergic operation with clear, self-explanatory operating surface
- Reproducible setting of all welding parameters with digital displays

Control functions

Control	Picomig	Progress	Concept	Expert	Car Expert
Functions					
General					
MIG/MAG	•	•	•	•	•
MIG/MAG pulse	•	•	•	•	•
TIG	•	•	•	•	–
MMA	•	•	•	•	–
EWM-forceArc	–	•	•	•	–
Non-latched	•	•	•	•	•
Latched	•	•	•	•	•
Interval	•	–	–	–	–
Spots	•	•	•	•	•
Special non-latched	–	•	•	•	•
Special latched	–	•	•	•	•
Automatic cut-out	•	•	•	•	•
Synergic operation	•	•	•	•	•
Super pulse	–	•	•	•	–
MIG-Liftarc I	–	•	•	•	–
MIG-Liftarc II	–	•	•	•	–
Wire burn-back	•	•	•	•	•
Choke effect	•	•	•	•	•
Gas pre-flow time	•	•	•	•	–
Gas post-flow time	•	•	•	•	–
Correction of the arc length	•	•	•	•	•
Hold function	•	•	•	•	•
Material, Wire, Gas - settings via JOB-list	•	•	•	–	–
Pause time	•	–	–	–	–
Ignition current	–	•	•	•	–
Upslope time	–	•	•	•	•
Main current	–	•	•	•	•
Secondary current	–	•	•	•	•
Downslope time	–	•	•	•	•
End current	–	•	•	•	•
Program duration	–	•	•	•	•
Material, Wire, Gas - settings directly via buttons	–	–	–	•	•
Gas test, currentless	•	•	•	•	•
Rinse tube package	•	•	•	•	–
Wire inching, currentless	•	•	•	•	•
2nd wire feed	–	•	–	•	–
Push/pull torch	–	•	–	•	•
Intermediate drive unit	–	•	•	•	•
Displays					
Welding current	•	•	•	•	•
Welding voltage	•	•	•	•	•
Wire speed	•	•	•	•	•
Metal sheet thickness	•	•	•	•	•
JOB number	•	•	•	•	–
Error code	•	•	•	•	•
Polarity display	•	–	–	–	–
Program number	–	•	•	•	•
Running time	–	–	–	•	–
Collective interference	•	•	•	•	–
Excess temperature	•	•	•	•	•
Water deficiency	–	•	•	•	–
MMA					
Hotstart	•	•	•	•	–
Arcforce	•	•	•	•	–
Antistick	•	•	•	•	–
TIG					
Gas pre-flow time	•	•	•	•	–
Ignition current	•	•	•	•	–
Upslope time	•	–	–	–	–
Main current	•	•	•	•	–
Secondary current	•	•	•	•	–
Downslope time	•	•	•	•	–
End current	•	•	•	•	–
Gas post-flow time	•	•	•	•	–

Options/accessories

Power sources	Item no.
Picomig 180 Puls TGE MIG/MAG pulse welding machine, compact, portable, gas, Euro central connector	090-005135-00502
Phoenix 330 Puls MIG/MAG pulse welding machine, compact, portable, gas, Euro central connector	090-005073-00502
Phoenix 351 Progress Puls DW MIG/MAG pulse welding machine, decompact, mobile, water	090-004848-00502
Phoenix 451 Progress Puls DW MIG/MAG pulse welding machine, decompact, mobile, water	090-005010-00502
Phoenix 551 Progress Puls DW MIG/MAG pulse welding machine, decompact, mobile, water	090-005013-00502
Phoenix 551 Progress Puls Highspeed MIG/MAG pulse welding machine, decompact, mobile, water	090-005140-00502
Phoenix 301 CAR Expert Puls MIG/MAG pulse welding machine, compact, mobile, gas, Euro central connector	090-004998-00502

Wire feed unit		Item no.
Phoenix Progress Drive 4D Double wire feed unit • Two welding tasks with just one power source for alternating welding of e.g. root and cover seams, solid and cored wire, different materials and wire thicknesses • No changing of rollers, no torch conversion required, changeover times are greatly reduced • The torch trigger is used for changeover between the wire feeds; no special torch or changeover on the machine required! • 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires • Pin reel type D300 • Dimensions: L x W x H in mm, 680 x 530 x 460. Weight 48 kg		090-005080-00502
Phoenix Concept Drive 4L WE Wire feed unit, water, Euro central connector • 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires • Pin reel type D300 • Dimensions: L x W x H in mm, 690 x 300 x 410. Weight 12 kg		090-004842-00502
Phoenix Progress Drive 4L WE Wire feed unit, water, Euro central connector • 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires • Pin reel type D300 • Dimensions: L x W x H in mm, 690 x 300 x 410. Weight 12 kg		090-004844-00502
Phoenix Expert Drive 4L WE Wire feed unit, water, Euro central connector • 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires • Pin reel type D300 • Dimensions: L x W x H in mm, 690 x 300 x 410. Weight 12 kg		090-004846-00502
Phoenix Expert Drive 4L WE M3.00 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires • Pin reel type D300 • Dimensions: L x W x H in mm, 690 x 300 x 410. Weight 12 kg		090-004802-00502
Phoenix Concept Drive 4 WE Wire feed unit, water, Euro central connector • 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires • Pin reel type D300 • Dimensions: L x W x H in mm, 680 x 460 x 265. Weight 24 kg		090-004841-00502
Phoenix Progress Drive 4 WE Wire feed unit, water, Euro central connector • 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires • Pin reel type D300 • Dimensions: L x W x H in mm, 680 x 460 x 265. Weight 24 kg		090-004843-00502

Wire feed unit		Item no.
Phoenix Progress Drive 4 HS Wire feed unit for high performance welding • 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires • Pin reel type D300 • Dimensions: L x W x H in mm, 680 x 460 x 265. Weight 24 kg		090-005141-00502
Phoenix Expert Drive 4 WE Wire feed unit, water, Euro central connector • 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires • Pin reel type D300 • Dimensions: L x W x H in mm, 680 x 460 x 265. Weight 24 kg		090-004845-00502
Phoenix Concept Drive 200C WE Adjustment of the gas quantity directly on the wire feed unit • 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires • Pin reel type D200 • Dimensions: L x W x H in mm, 580 x 290 x 360 Weight 12.5 kg		
Phoenix Progress Drive 200C WE Wire feed unit, water, Euro central connector • Adjustment of the gas quantity directly on the wire feed unit • 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires • Pin reel type D200 • Dimensions: L x W x H in mm, 580 x 290 x 360 Weight 12.5 kg		090-005102-00502
Phoenix Expert Drive 200C WE Wire feed unit, water, Euro central connector • Adjustment of the gas quantity directly on the wire feed unit • 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires • Pin reel type D200 • Dimensions: L x W x H in mm, 580 x 290 x 360 Weight 12.5 kg		090-005104-00502
Phoenix Progress Drive 300C WE Wire feed unit, water, Euro central connector • Adjustment of the gas quantity directly on the wire feed unit • 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires • Pin reel type D300 • Dimensions: L x W x H in mm, 740 x 290 x 480. Weight 13.5 kg		090-005103-00502
Phoenix Expert Drive 300C WE Wire feed unit, water, Euro central connector • Adjustment of the gas quantity directly on the wire feed unit • 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires • Pin reel type D300 • Dimensions: L x W x H in mm, 740 x 290 x 480. Weight 13.5 kg		090-005105-00502

Intermediate tube packages		Item no.
70QMM MIG W 1M 7POL Intermediate tube package, for machines with water cooling, 7-pole		094-000406-00000
95QMM MIG W 1M 7POL Intermediate tube package, for machines with water cooling, 7-pole		094-000407-00000
70QMM MIG W 1M 19POL Intermediate tube package, for machines with water cooling, 19-pole		094-009082-00000

Options/accessories

Intermediate tube packages		Item no.
95QMM MIG W 1M 19POL Intermediate tube package, for machines with water cooling, 19-pole		094-009083-00000

Torch		Item no.
MT300G EZA MIG/MAG welding torch, gas-cooled • Outstanding welding characteristics are ensured by a separate gas supply and optimal cooling by means of a profiled gas channels • Microswitch with gold-plated contacts and dust protection according to IP65 with defined pressure points for ultimate precision • Ergonomically formed grip plate takes the strain out of work		094-500019-00004
MT300G EZA MIG/MAG welding torch, gas-cooled • Outstanding welding characteristics are ensured by a separate gas supply and optimal cooling by means of a profiled gas channels • Microswitch with gold-plated contacts and dust protection according to IP65 with defined pressure points for ultimate precision • Ergonomically formed grip plate takes the strain out of work		094-500019-00005
MT300CG 2U/D EZA MIG/MAG welding torch, 2x up/down, gas-cooled • Setting wire-feed speed and welding voltage or correcting the voltage • With Phoenix Progress and Expert as well as alpha Q, programs and JOBs can also be optionally selected		094-500019-03300
MT450W PC1 EZA MIG/MAG welding torch, Powercontrol 1, water-cooled • Display and setting wire feed speed or programs		094-500020-00404
MT220G EZA MIG/MAG welding torch, gas-cooled • Outstanding welding characteristics are ensured by a separate gas supply and optimal cooling by means of a profiled gas channels • Microswitch with gold-plated contacts and dust protection according to IP65 with defined pressure points for ultimate precision • Ergonomically formed grip plate takes the strain out of work		094-500018-00000
MT300G EZA MIG/MAG welding torch, gas-cooled • Outstanding welding characteristics are ensured by a separate gas supply and optimal cooling by means of a profiled gas channels • Microswitch with gold-plated contacts and dust protection according to IP65 with defined pressure points for ultimate precision • Ergonomically formed grip plate takes the strain out of work		094-500019-00000
MT300G U/D EZA MIG/MAG welding torch, 1x up/down, gas-cooled • Setting the wire feed speed • With Phoenix Progress and Expert as well as alpha Q, programs can also be optionally selected		094-500019-00200
MT300G 2U/D EZA MIG/MAG welding torch, 2x up/down, gas-cooled • Setting wire-feed speed and welding voltage or correcting the voltage • With Phoenix Progress and Expert as well as alpha Q, programs and JOBs can also be optionally selected		094-500019-00300

Torch		Item no.
MT300G PC1 EZA MIG/MAG welding torch, Powercontrol 1, gas-cooled • Display and setting wire feed speed or programs		094-500019-00400
MT300G PC2 EZA MIG/MAG welding torch, Powercontrol 2, gas-cooled • Displaying and setting wire feed speed and voltage correction or programs and JOBs (welding tasks)		094-500019-00700
MT400G U/D EZA MIG/MAG welding torch, 1x up/down, gas-cooled • Setting the wire feed speed • With Phoenix Progress and Expert as well as alpha Q, programs can also be optionally selected		094-500021-00200
MT400G 2U/D EZA MIG/MAG welding torch, 2x up/down, gas-cooled • Setting wire-feed speed and welding voltage or correcting the voltage • With Phoenix Progress and Expert as well as alpha Q, programs and JOBs can also be optionally selected		094-500021-00300
MT400G PC1 EZA MIG/MAG welding torch, Powercontrol 1, gas-cooled • Display and setting wire feed speed or programs		094-500021-00400
MT400G PC2 EZA MIG/MAG welding torch, Powercontrol 2, gas-cooled • Displaying and setting wire feed speed and voltage correction or programs and JOBs (welding tasks)		094-500021-00700
MT450W EZA MIG/MAG welding torch, water-cooled • Outstanding welding characteristics thanks to separate gas supply and optimal cooling		094-500020-00000
MT450W U/D EZA MIG/MAG welding torch, up/down, water-cooled • Setting the wire feed speed • With Phoenix Progress and Expert as well as alpha Q, programs can also be optionally selected		094-500020-00200
MT450W 2U/D EZA MIG/MAG welding torch, 2 up/down, water-cooled • Water-cooled MIG/MAG welding torch • Setting wire-feed speed and welding voltage or correcting the voltage • With Phoenix Progress and Expert as well as alpha Q, programs and JOBs can also be optionally selected		094-500020-00300
MT450W PC1 EZA MIG/MAG welding torch, Powercontrol 1, water-cooled • Display and setting wire feed speed or programs		094-500020-00400

Options/accessories

Torch	Item no.
MT450W PC2 EZA MIG/MAG welding torch, Powercontrol 2, water-cooled • Displaying and setting wire feed speed and voltage correction or programs and JOBs (welding tasks)	094-500020-00700
MT550WR EZA MIG/MAG welding torch, water-cooled • Outstanding welding properties are ensured by a separate gas supply and optimal cooling by means of a parallel double-loop cooling system	094-500022-00000
MT550WR U/D EZA MIG/MAG welding torch, up/down, water-cooled • Setting the wire feed speed • With Phoenix Progress and Expert as well as alpha Q, programs can also be optionally selected	094-500022-00200
MT550WR 2U/D EZA MIG/MAG welding torch, 2 up/down, water-cooled • Water-cooled MIG/MAG welding torch • Setting wire-feed speed and welding voltage or correcting the voltage • With Phoenix Progress and Expert as well as alpha Q, programs and JOBs can also be optionally selected	094-500022-00300
MT550WR PC1 EZA MIG/MAG welding torch, Powercontrol 1, water-cooled • Display and setting wire feed speed or programs	094-500022-00400
MT550WR PC2 EZA MIG/MAG welding torch, Powercontrol 2, water-cooled • Displaying and setting wire feed speed and voltage correction or programs and JOBs (welding tasks)	094-500022-00700
MT550WL EZA MIG/MAG welding torch, water-cooled • Extra long torch neck	094-500022-20000
MT550WLR U/D EZA MIG/MAG welding torch, up/down, water-cooled • Setting the wire feed speed • With Phoenix Progress and Expert as well as alpha Q, programs can also be optionally selected	094-500022-20200
MT550WLR 2U/D EZA MIG/MAG welding torch, 2 up/down, water-cooled • Water-cooled MIG/MAG welding torch • Setting wire-feed speed and welding voltage or correcting the voltage • With Phoenix Progress and Expert as well as alpha Q, programs and JOBs can also be optionally selected	094-500022-20300
TIG 150 GD EZA TIG welding torch, Euro central connection	094-512291-04000

Remote control		Item no.
R10 Remote control, wire feed rate correction • Robust metal casing with rubber feet, stirrup and holding magnet, 19-pole connection socket		090-008087-00000
R20 Remote control, program switching • Robust metal casing with rubber feet, stirrup and holding magnet, 19-pole connection socket • Changeover and display of up to ten welding programmes		090-008263-00000
R40 Remote control, 16 programs • Robust metal casing with rubber feet, stirrup and holding magnet, 7-pole connection socket • Change over, display, create or modify up to 16 welding programs • Switch super pulse function on or off • Changeover between standard MIG welding and pulse arc MIG welding		090-008088-00000
FRV10-L 7POL 10M Extension/connection cable		092-000201-00000
RA5 19POL 5M Remote control e.g. connection cable		092-001470-00005

Cooling module		Item no.
COOL71 U43 Cooling module with centrifugal pump • Modular design, tool-free assembly • Cooling capacity 1 l/min: 1200 W, max. flow rate: 5 l/min, max. output pressure: 3.5 bar, 7 l tank capacity • Dimensions L x W x H in mm, 685 x 335 x 255 Weight 25 kg		090-008220-00502
COOL71 U42 Air cooling unit with centrifugal pump and reinforced cooling • Modular design, tool-free assembly • Cooling capacity 2 l/min: 1500 W, max. flow rate: 20 l/min, max. output pressure: 4.5 bar, 7 l tank capacity • Dimensions L x W x H in mm, 685 x 335 x 255 Weight 25 kg		090-008201-00502

Transport vehicle		Item no.
Trolly 75 B1 Transport vehicle disassembled, boxed, for power source + 1 module + 1 gas cylinder • Solid, stable design • For transporting a power source, a cooling module and a gas cylinder • Dimensions L x W x H in mm, 980 x 505 x 990. Weight 34 kg		090-008176-00001

Options for retrofitting		Item no.
ON FILTER T/P Dirt filter for air inlet • Reliably protects the machine from impurities under tough working conditions.		092-002092-00000

Options/accessories

Options for retrofitting		Item no.
ON SET KRAN HOR Cross arm for horizontal suspension of the machine • To mount the welding machine, e.g. directly above the workplace.		092-001832-00000
ON SET KRAN HOR/VER 330 Phoenix Cross arm for horizontal or vertical suspension of the machine. With impact protection • To mount the welding machine, e.g. directly above the workplace.		092-002355-00000
ON WHEELS PHOENIX 330 Wheel assembly kit for PHOENIX 330 machine series • Wheel set – facilitates work at frequently changing welding sites		092-002387-00000
ON FSB WHEELS W/T/P Locking brake for machine wheels • Front wheels with locking brake allow the machine to be safely parked even on uneven ground.		092-002110-00000
ON HOSE/FR MOUNT Mount for tubes and remote control for machines without star handle • Keeps the machine in a tidy condition: tubes and cables of e.g. welding torches or remote controls can be coiled in an orderly way on the machine. Also helps to fix remote controls in place		092-002116-00000
ON HOSE/FR MOUNT DK 4L Mount for hoses and remote controls for machines with 4L star handle (092-002112-00000) • Keeps the machine in a tidy condition: tubes and cables of e.g. welding torches or remote controls can be coiled in an orderly way on the machine. Also helps to fix remote controls in place		092-002117-00000
ON DK DRIVE 4L T/P Star handle for housing a Drive 4L type wire feed unit • Swivel mounting of the wire feed unit on the welding machine		092-002112-00000
ON DK PHOENIX DRIVE 4 Star handle for housing a Drive 4 type wire feed unit • Swivel mounting of the wire feed unit on the welding machine		092-002280-00000
ON DK PHOENIX DRIVE 4 WHEELS Set of star handle and wheel kit for Drive 4 type wire feed units • Swivel mounting of the wire feed unit on the welding machine		092-002284-00000
ON HOLDER GAS BOTTLE <50L Holding plate for gas cylinders smaller than 50 litres • Transport even small gas cylinders safely on the machine		092-002151-00000

Options for retrofitting		Item no.
ON SHOCK PROTECT Ram protection • Protects the machine from scratches and dents. Highly recommended if the machine is transported frequently		092-002154-00000
ON TOOL BOX Toolbox between gas cylinder and rear casing panel • Tools and torch replaceable parts always to hand. • Dimensions L x W x H in mm: 240 x 100 x 80		092-002138-00000

Factory-fit options		Item no.
OW REINFORCED PUMP T/P Heavy-duty coolant pump (only ex works) • Recommended for long hose packages. Increases the flow rate to up to 20 l/min and the pressure to max. 4.5 bar		092-002118-00001
OW MULTIVOLT 351/451/551 Multi-voltage (230V/400V/480V) – factory fitting (no retrofitting)		092-002542-00001

Wire feed unit options		Item no.
ON RMSDDV1 Wheel assembly kit for DRIVE 4 • Wheel set – facilitates work at frequently changing welding sites		090-008035-00000
ON RMSDV2 Wheel assembly kit for DRIVE 4L • Wheel set – facilitates work at frequently changing welding sites		090-008151-00000

Mains plug		Item no.
ADAP SCHUKO/16ACEE Earth contact coupling/CEE16A plug		092-000812-00000
5POLE/CEE/16A/M Mains plug		094-000712-00000
5POLE/CEE/32A/M Mains plug		094-000207-00000

Options/accessories

Coolant		Item no.
KF 23E-10, -10° Coolant (-10 °C), 9.3 l		094-000530-00000
KF 23E-200, -10° Coolant (-10 °C), 200 l		094-000530-00001
KF 37E-10, -20° Coolant (-20 °C), 9.3 l		094-006256-00000

General		Item no.
DM1 32L/MIN Manometer pressure reducer • Single-stage pressure reducer for use with standard MIG/MAG welding equipment		094-000009-00000
AK300 Adapter for K300 basket coil		094-001803-00001

Machine-dependent

Machines	Page	Picomig 180 Puls	PHOENIX 330	Phoenix 351 Puls	Phoenix 451 Puls	Phoenix 551 Puls	Phoenix 551 Puls High-speed
Wire feed unit							
Phoenix Progress Drive 4L WE	→ 46	–	–	•	•	•	–
Phoenix Progress Drive 200C WE	→ 47	–	–	•	•	•	–
Phoenix Progress Drive 4 WE	→ 46	–	–	•	•	•	–
Phoenix Expert Drive 300C WE	→ 47	–	–	•	•	•	–
Phoenix Progress Drive 300C WE	→ 47	–	–	•	•	•	–
Phoenix Progress Drive 4D	→ 46	–	–	•	•	•	–
Phoenix Progress Drive 4 HS	→ 47	–	–	–	–	–	•
Intermediate tube packages							
70QMM MIG W 1M 7POL	→ 17	–	–	•	•	–	–
95QMM MIG W 1M 7POL	→ 17	–	–	–	–	•	•
Torch							
MT220G EZA	→ 48	•	–	–	–	–	–
TIG 150 GD EZA	→ 50	•	–	–	–	–	–
MT300G EZA	→ 18	–	•	–	–	–	–
MT300G EZA	→ 48	–	•	–	–	–	–
MT300G EZA	→ 48	–	•	–	–	–	–
MT450W EZA	→ 19	–	–	•	–	–	–
MT550WR EZA	→ 19	–	–	–	•	•	–
MT550WL EZA	→ 50	–	–	–	–	–	•
Cooling module							
COOL71 U42	→ 20	–	•	–	–	–	–
COOL71 U43	→ 20	–	•	–	–	–	–
Transport vehicle							
Trolly 75 B1	→ 20	–	•	–	–	–	–
Options for retrofitting							
ON SET KRAN HOR	→ 21	–	•	–	–	–	–
ON SET KRAN HOR/VER 330 Phoenix	→ 52	–	•	–	–	–	–
ON WHEELS PHOENIX 330	→ 21	–	•	–	–	–	–
ON DK DRIVE 4L T/P	→ 21	–	–	•	•	•	–
ON DK PHOENIX DRIVE 4	→ 21	–	–	•	•	•	•
ON FILTER T/P	→ 21	–	–	•	•	•	•
ON FSB WHEELS W/T/P	→ 21	–	–	•	•	•	•
ON HOLDER GAS BOTTLE <50L	→ 22	–	–	•	•	•	•
ON HOSE/FR MOUNT	→ 21	–	–	•	•	•	•
ON HOSE/FR MOUNT DK 4L	→ 21	–	–	•	•	•	•
ON SHOCK PROTECT	→ 22	–	–	•	•	•	•
ON TOOL BOX	→ 22	–	–	•	•	•	•
ON DK PHOENIX DRIVE 4 WHEELS	→ 21	–	–	•	•	•	•
Factory-fit options							
OW REINFORCED PUMP T/P	→ 22	–	–	•	•	•	•
OW MULTIVOLT 351/451/551	→ 53	–	–	•	•	•	•
Wire feed unit options							
ON RMSDDV1	→ 22	–	–	•	•	•	•
ON RMSDV2	→ 22	–	–	•	•	•	–
Mains plug							
ADAP SCHUKO/16ACEE	→ 53	•	–	–	–	–	–
5POLE/CEE/16A/M	→ 53	–	•	–	–	–	–
5POLE/CEE/32A/M	→ 22	–	–	•	•	•	•
Coolant							
KF 23E-10, -10°	→ 22	–	•	•	•	•	•
KF 23E-200, -10°	→ 22	–	•	•	•	•	•
KF 37E-10, -20°	→ 23	–	•	•	•	•	•
General							
DM1 32L/MIN	→ 23	•	•	•	•	•	•
AK300	→ 23	–	•	•	•	•	•

Machine-dependent

Machines	Page	Phoenix 301 Car Expert
Wire feed unit		
Phoenix Progress Drive 4L WE	→ 46	–
Phoenix Progress Drive 200C WE	→ 47	–
Phoenix Progress Drive 4 WE	→ 46	–
Phoenix Expert Drive 300C WE	→ 47	–
Phoenix Progress Drive 300C WE	→ 47	–
Phoenix Progress Drive 4D	→ 46	–
Phoenix Progress Drive 4 HS	→ 47	–
Intermediate tube packages		
70QMM MIG W 1M 7POL	→ 17	–
95QMM MIG W 1M 7POL	→ 17	–
Torch		
MT220G EZA	→ 48	–
TIG 150 GD EZA	→ 50	–
MT300G EZA	→ 18	–
MT300G EZA	→ 48	–
MT300G EZA	→ 48	–
MT450W EZA	→ 19	–
MT550WR EZA	→ 19	–
MT550WL EZA	→ 50	–
Cooling module		
COOL71 U42	→ 20	–
COOL71 U43	→ 20	–
Transport vehicle		
Trolly 75 B1	→ 20	–
Options for retrofitting		
ON SET KRAN HOR	→ 21	–
ON SET KRAN HOR/VER 330 Phoenix	→ 52	–
ON WHEELS PHOENIX 330	→ 21	–
ON DK DRIVE 4L T/P	→ 21	–
ON DK PHOENIX DRIVE 4	→ 21	–
ON FILTER T/P	→ 21	–
ON FSB WHEELS W/T/P	→ 21	–
ON HOLDER GAS BOTTLE <50L	→ 22	–
ON HOSE/FR MOUNT	→ 21	•
ON HOSE/FR MOUNT DK 4L	→ 21	–
ON SHOCK PROTECT	→ 22	–
ON TOOL BOX	→ 22	–
ON DK PHOENIX DRIVE 4 WHEELS	→ 21	–
Factory-fit options		
OW REINFORCED PUMP T/P	→ 22	–
OW MULTIVOLT 351/451/551	→ 53	–
Wire feed unit options		
ON RMSDDV1	→ 22	–
ON RMSDV2	→ 22	–
Mains plug		
ADAP SCHUKO/16ACEE	→ 53	–
5POLE/CEE/16A/M	→ 53	•
5POLE/CEE/32A/M	→ 22	–
Coolant		
KF 23E-10, -10°	→ 22	–
KF 23E-200, -10°	→ 22	–
KF 37E-10, -20°	→ 23	–
General		
DM1 32L/MIN	→ 23	•
AK300	→ 23	•

Control-dependent

Controls	Page	Progress	Concept	Expert
Wire feed unit				
Phoenix Progress Drive 4L WE	→ 46	•	–	–
Phoenix Progress Drive 200C WE	→ 47	•	–	–
Phoenix Progress Drive 4 WE	→ 46	•	–	–
Phoenix Concept Drive 4L WE	→ 46	–	•	–
Phoenix Concept Drive 200C WE	→ 47	–	•	–
Phoenix Concept Drive 4 WE	→ 46	–	•	–
Phoenix Expert Drive 4L WE M3.00	→ 46	–	–	•
Phoenix Expert Drive 4L WE	→ 46	–	–	•
Phoenix Expert Drive 200C WE	→ 47	–	–	•
Phoenix Expert Drive 4 WE	→ 47	–	–	•
Intermediate tube packages				
70QMM MIG W 1M 7POL	→ 17	•	–	•
95QMM MIG W 1M 7POL	→ 17	•	–	•
70QMM MIG W 1M 19POL	→ 47	–	•	–
95QMM MIG W 1M 19POL	→ 48	–	•	–
Torch				
MT300CG 2U/D EZA	→ 18	•	•	•
MT300G 2U/D EZA	→ 18	•	•	•
MT400G 2U/D EZA	→ 18	•	•	•
MT450W 2U/D EZA	→ 19	•	•	•
MT550WR 2U/D EZA	→ 19	•	•	•
MT550WLR 2U/D EZA	→ 19	•	•	•
MT550WR PC2 EZA	→ 19	•	–	•
MT450W PC1 EZA	→ 48	•	–	–
MT450W PC2 EZA	→ 50	•	–	•
MT550WR PC1 EZA	→ 19	•	–	•
MT400G U/D EZA	→ 18	–	•	•
MT450W U/D EZA	→ 49	–	•	•
MT300G U/D EZA	→ 18	–	•	•
MT550WR U/D EZA	→ 19	–	•	•
MT550WLR U/D EZA	→ 19	–	•	–
MT300G PC2 EZA	→ 18	–	–	•
MT400G PC1 EZA	→ 18	–	–	•
MT400G PC2 EZA	→ 18	–	–	•
MT450W PC1 EZA	→ 49	–	–	•
MT300G PC1 EZA	→ 18	–	–	•
Remote control				
R10	→ 20	•	•	•
R20	→ 20	•	–	•
R40	→ 20	•	–	•
RA5 19POL 5M	→ 20	–	•	•
FRV10-L 7POL 10M	→ 20	–	–	•

Technical data

		Picomig 180 Puls			Phoenix 330 Puls			Phoenix 351 Puls					
		MIG/MAG	TIG	MMA	MIG/MAG	TIG	MMA	MIG/MAG		TIG		MMA	
Setting range for welding current	A	5 - 180	5 - 180	5 - 150	5 - 330	5 - 330	5 - 330	5 - 350		5 - 350		5 - 350	
Duty cycle at ambient temperature	°C	40	40	40	40	40	40	25	40	25	40	25	40
25 %	A	180	–	–	–	–	–	–	–	–	–	–	–
30 %	A	–	180	–	–	–	–	–	–	–	–	–	–
35 %	A	–	–	150	–	–	–	–	–	–	–	–	–
40 %	A	–	–	–	330	330	330	–	–	–	–	–	–
60 %	A	120	140	110	270	270	270	–	–	–	–	–	–
100 %	A	100	120	100	210	210	210	350	350	350	350	350	350
Mains frequency	Hz	50 / 60			50 / 60			50 / 60					
Mains fuses (slow-blow)	A	1 x 16			3 x 16			3 x 25					
Mains voltage (tolerances)		1 x 230 V (-40 % - +15 %)			3 x 400 V (-25 % - +20 %)			3 x 400 V (-25 % - +20 %)					
Max. connected load	kVA	6.4	4.4	5.5	12.7	9.7	13.8	13.9		10.6		15	
Recommended generator power	kVA	7.5			18.7			20.3					
Wire drive rollers		4			4			4					
Wire speed	m/min	0.5 - 15			0.5 - 24			0.5 - 24					
Dimensions, machine, L x W x H	mm	685 x 280 x 360			685 x 335 x 520			1100 x 455 x 1000					
Weight, machine	kg	15			42.5			125					
Weight, wire feed	kg	–			–			15.1					
Protection classification		IP 23			IP 23			IP 23					
Insulation class		H			H			H					
Torch connection		Euro central			Euro central			Euro central					
Cooling output	W	–			–			1500					
Tank capacity	l	–			–			12					
Flow rate	l/min	–			–			5					
Max. output pressure	bar	–			–			3.5					
Standards		IEC 60 974-1 / IEC 60 974-5 / IEC 60 974-10 / CE / S-Safety sign			IEC 60 974-1 / IEC 60 974-5 / IEC 60 974-10 / CE / S-Safety sign			IEC 60 974-1 / IEC 60 974-2 / IEC 60 974-10 / CE / S-Safety sign					

		Phoenix 451 Puls						Phoenix 551 Puls					
		MIG/MAG		MMA		TIG		MIG/MAG		TIG		MMA	
Setting range for welding current	A	5 - 450		5 - 450		5 - 450		5 - 550		5 - 550		5 - 550	
Duty cycle at ambient temperature	°C	25	40	25	40	25	40	25	40	25	40	25	40
60 %	A	–	–	–	–	–	–	550	550	550	550	550	550
80 %	A	–	450	–	450	–	450	520	–	520	–	520	–
100 %	A	450	420	450	420	450	420	450	420	450	420	450	420
Mains frequency	Hz	50 / 60						50 / 60					
Mains fuses (slow-blow)	A	3 x 35						3 x 35					
Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)						3 x 400 V (-25 % - +20 %)					
Max. connected load	kVA	20.7		21.6		15.9		28		22.2		29.2	
Recommended generator power	kVA	29.1						39.4					
Wire drive rollers		4						4					
Wire speed	m/min	0.5 - 24						0.5 - 24					
Dimensions, machine, L x W x H	mm	1100 x 455 x 1000						1100 x 455 x 1000					
Weight, machine	kg	125						125					
Weight, wire feed	kg	15.1						15.1					
Protection classification		IP 23						IP 23					
Insulation class		H						H					
Torch connection		Euro central						Euro central					
Cooling output	W	1500						1500					
Tank capacity	l	12						12					
Flow rate	l/min	5						5					
Max. output pressure	bar	3.5						3.5					
Standards		IEC 60 974-1 / IEC 60 974-2 / IEC 60 974-10 / CE / S-Safety sign						IEC 60 974-1 / IEC 60 974-2 / IEC 60 974-10 / CE / S-Safety sign					

Technical data

		Phoenix 551 Puls Highspeed						Phoenix 301 Car Expert					
		MIG/MAG		TIG		MMA		MIG/MAG		TIG		MMA	
Setting range for welding current	A	5 - 550		5 - 550		5 - 550		5 - 300		5 - 300		5 - 300	
Duty cycle at ambient temperature	°C	25	40	25	40	25	40	25	40	25	40	25	40
60 %	A	550	550	550	550	550	550	–	300	–	300	–	300
80 %	A	520	–	520	–	520	–	300	–	300	–	300	–
100 %	A	450	420	450	420	450	420	270	250	270	250	270	250
Mains frequency	Hz	50 / 60						50 / 60					
Mains fuses (slow-blow)	A	3 x 35						3 x 16					
Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)						3 x 400 V (-25 % - +20 %)					
Max. connected load	kVA	28		22.2		29.2		11		8.3		12.1	
Recommended generator power	kVA	39.4						16.4					
Wire drive rollers		4						4					
Wire speed	m/min	0.5 - 30						0.5 - 24					
Dimensions, machine, L x W x H	mm	1100 x 455 x 1000						930 x 460 x 730					
Weight, machine	kg	125						69.5					
Weight, wire feed	kg	24.5						–					
Protection classification		IP 23						IP 23					
Insulation class		H						H					
Torch connection		Euro central						Euro central					
Cooling output	W	1500						–					
Tank capacity	l	12						–					
Flow rate	l/min	5						–					
Max. output pressure	bar	3.5						–					
Standards		IEC 60 974-1 / IEC 60 974-2 / IEC 60 974-10 / CE / S-Safety sign						IEC 60 974-1 / IEC 60 974-5 / IEC 60 974-10 / CE / S-Safety sign					

MIG/MAG standard welding machines, infinite control

TAURUS – the workhorse for MIG/MAG standard welding
The digital inverter welding machines in the Taurus series provide welders with a reliable tool for professional MIG/MAG standard welding. These machines more than match their reputation as a „workhorse“, especially for production work in steel and vehicle construction with multi-shift operation. Their robustness and solidly designed stable metal housing ensure a long service life.

Overview

MIG/MAG standard welding machines, infinite control mobile

Design	Max. welding current	Product name	Cooling		Page
	A		gas cooled	water cooled	
Compact	300	Taurus 301	•	–	66
Decompact	350	Taurus 351	–	•	66
	450	Taurus 451	–	•	67
	550	Taurus 551	–	•	67

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TAURUS – staying power for MIG/MAG standard welding

3-in-1 casing concept means power source, transport vehicle and cooling unit are combined in one unit for easy transport and handling. Optimised air guidance ensures greater cooling efficiency, permits longer duty cycles and reduces soiling in the machine. Easy handling is guaranteed by the self-explanatory controls.
Full performance for tough, practical operation

Taurus

Highlights

Taurus – universally applicable

The robust, infinitely adjustable power source for MIG/MAG standard, MMA and TIG(Liftarc) welding plus air arc gouging

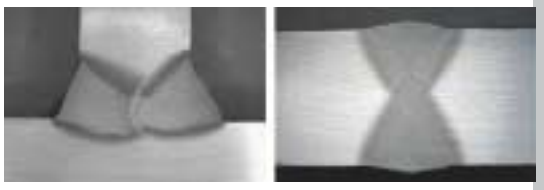
Self-explanatory and simple operating concepts

Basic – standard setting via wire speed and voltage on the welding machine or wire feed

Synergic – simple setting only via wire speed. Material, wire and gas type are set via JOB list on the welding machine, the wire feed on the welding machine or wire feed unit

Consistent welding results

Thanks to inverter technology, regardless of the intermediate hose package lengths, mains cable lengths and mains voltage fluctuations



forceArc – highly productive, impressive quality (Synergic)

Up to 50% lower production costs: a masterpiece of innovative MIG/MAG process engineering. Powerful forced arc, deep fusion penetration and virtually spatter-free weld seams of the highest quality.

Precise, reproducible wire feed

Thanks to digital control of the wire feed – even with difficult wire feed conditions e.g. long torch packages

Maximum ease-of-operation

Convenient – the operating point is infinitely adjustable via the panel thickness. Can also be adjusted at the workplace by remote control or torch

Advantages

Extra-large 12 litre tank

Trouble-free commissioning even with long tube packages and safe operation at high temperatures and during extended duty cycles

4 lifting lugs as standard

100% mobile for transportation in production halls and shipyards with restricted access

Connected in no time

Screw and plug-in connections for intermediate hose package located externally on wire feed

Mobility for any location

Large wheels for easy running – even on very uneven surfaces. Same gauge on front and rear wheels facilitates transport

Total convenience

No tools required for roller change, Each roller is suitable for two different wire diameters

Multi-functional, ergonomic handle system

Effortless running, practical holder for hose packages, impact protection

Taurus mobile

- Remote control connection
- Excellent MIG and MMA welding characteristics
- Either very simple Synergic operation or setting via wire speed and voltage
- Extended duty cycle and top performance – up to 550 A welding current

Taurus 301

Controls → 68
Options/accessories → 77
Technical data → 79

- Compact, gas-cooled
- Mobile, can be lifted by crane and moved by fork lift
- 4-roller wire feed Equipped for 0.8 mm + 1.0 mm steel wires

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 16
Setting range for welding current	A	5 - 300
Duty cycle 40 °C		300 A / 60 %
Duty cycle 40 °C		250 A / 100 %
Dimensions L x W x H	mm	930 x 460 x 730
Weight	kg	69.5

Taurus 351

Controls → 68
Options/accessories → 77
Technical data → 79

- Mobile, can be lifted by crane and moved by fork lift
- 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires
- Efficient cooling system with centrifugal pump and large 12 l tank. Pressure monitor, pump and temperature-controlled fan.

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 25
Setting range for welding current	A	5 - 350
Duty cycle 40 °C		350 A / 100 %
Dimensions L x W x H	mm	1100 x 455 x 1000
Weight	kg	125
Dimensions, wire feed unit L x W x H	mm	690 x 300 x 410
Weight, wire feed	kg	13.5

Synergic operation
Very easy to set the operating point – all welding parameters and the optimum characteristics are set as per the pre-selected welding task using just one rotary dial

Will pass through manholes
Wire feed unit can be transported easily thanks to central handle, light weight, compact design

Taurus 451

Controls → 68
Options/accessories → 77
Technical data → 80

- Mobile, can be lifted by crane and moved by fork lift
- 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires
- Efficient cooling system with centrifugal pump and large 12 l tank. Pressure monitor, pump and temperature-controlled fan.

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 35
Setting range for welding current	A	5 - 450
Duty cycle 40 °C		450 A / 80 %
Duty cycle 40 °C		420 A / 100 %
Dimensions L x W x H	mm	1100 x 455 x 1000
Weight	kg	125
Dimensions, wire feed unit L x W x H	mm	690 x 300 x 410
Weight, wire feed	kg	13.5

Taurus 551

Controls → 68
Options/accessories → 77
Technical data → 80

- Mobile, can be lifted by crane and moved by fork lift
- 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires
- Efficient cooling system with centrifugal pump and large 12 l tank. Pressure monitor, pump and temperature-controlled fan.

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 35
Setting range for welding current	A	5 - 550
Duty cycle 40 °C		550 A / 60 %
Duty cycle 40 °C		420 A / 100 %
Dimensions L x W x H	mm	1100 x 455 x 1000
Dimensions, wire feed unit L x W x H	mm	690 x 300 x 410
Weight, wire feed	kg	13.5

Multi-voltage capability – the ideal solution
Multi-voltage version for different national grids. 3 x 230 V, 400 V, 480 V (option, ex works)

Easy to service
Easily accessible layout of modules in the machine

Machine control overview

Controls	Taurus Basic	Taurus Synergic
Machines		
Taurus 301	•	•
Taurus 351	•	•
Taurus 451	•	•
Taurus 551	•	•

Control details

Taurus Basic

Ideal for manual applications

- All welding parameters and functions can be adjusted on the welding machine
- standard operation via wire speed and voltage – as with step switch controlled machines – but with the advantages of an inverter system
- Reproducible setting of all welding parameters with digital displays

Control details

Taurus Synergic

Ideal for manual applications

- All welding parameters and functions can be adjusted on the welding machine
- 99 pre-programmed JOBs (welding tasks) with selection via JOB list
- 16 programs per JOB
- Synergic operation with clear, self-explanatory operating surface
- Reproducible setting of all welding parameters with digital displays
- Connection capability for torch and remote control, for setting the wire feed speed and correcting the arc length

Control functions

Control	Taurus Basic	Taurus Synergic
Functions		
General		
MIG/MAG	•	•
MMA	•	•
TIG	–	•
EWM-forceArc	–	•
Non-latched	•	•
Latched	•	•
Special non-latched	–	•
Special latched	–	•
Spots	–	•
Automatic cut-out	•	•
Synergic operation	–	•
Wire burn-back	•	•
Choke effect	•	•
Gas pre-flow time	•	•
Gas post-flow time	•	•
Correction of the arc length	•	•
Hold function	•	•
Main current	•	•
Gouging	•	•
Ignition current	–	•
Upslope time	–	•
Secondary current	–	•
Downslope time	–	•
End current	–	•
Program duration	–	•
Gas test, currentless	•	•
Wire inching, currentless	•	•
Rinse tube package	–	•
Displays		
Welding current	•	•
Welding voltage	•	•
Wire speed	•	•
Error code	•	•
Metal sheet thickness	–	•
JOB number	–	•
Program number	–	•
Collective interference	•	•
Excess temperature	•	•
Water deficiency	•	•
MMA		
Hotstart	•	•
Arcforce	•	•
Antistick	•	•
TIG		
Gas pre-flow time	–	•
Ignition current	–	•
Main current	–	•
Secondary current	–	•
Downslope time	–	•
End current	–	•
Gas post-flow time	–	•

Options/accessories

Power sources	Item no.
Taurus 301 Synergic MIG/MAG standard welding machine, compact, mobile, gas	090-005157-00502
Taurus 351 Synergic DW MIG/MAG standard welding machine, decompact, mobile, water	090-005158-00502
Taurus 451 Synergic DW MIG/MAG standard welding machine, decompact, mobile, water	090-005159-00502
Taurus 551 Synergic DW MIG/MAG standard welding machine, decompact, mobile, water	090-005160-00502

Wire feed unit		Item no.
Taurus Basic Drive 4 WE Wire feed unit, water, Euro central connector • 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires • Pin reel type D300 • Dimensions: L x W x H in mm, 680 x 460 x 265. Weight 24 kg		090-005152-00502
Taurus Basic Drive 4L WE Wire feed unit, water, Euro central connector • 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires • Pin reel type D300 • Dimensions: L x W x H in mm, 690 x 300 x 410. Weight 12 kg		090-005153-00502
Taurus Synergic Drive 4 WE Wire feed unit, water, Euro central connector • 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires • Pin reel type D300 • Dimensions: L x W x H in mm, 680 x 460 x 265. Weight 24 kg		090-005162-00502
Taurus Synergic Drive 4L WE Wire feed unit, water, Euro central connector • 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires • Pin reel type D300 • Dimensions: L x W x H in mm, 690 x 300 x 410. Weight 12 kg		090-005161-00502

Intermediate tube packages		Item no.
70QMM MIG W 1M 19POL Intermediate tube package, for machines with water cooling, 19-pole		094-009082-00000

Torch		Item no.
MT300CG 2U/D EZA MIG/MAG welding torch, 2x up/down, gas-cooled • Setting wire-feed speed and welding voltage or correcting the voltage • With Phoenix Progress and Expert as well as alpha Q, programs and JOBs can also be optionally selected		094-500019-03300
MT300G EZA MIG/MAG welding torch, gas-cooled • Outstanding welding characteristics are ensured by a separate gas supply and optimal cooling by means of a profiled gas channels • Microswitch with gold-plated contacts and dust protection according to IP65 with defined pressure points for ultimate precision • Ergonomically formed grip plate takes the strain out of work		094-500019-00000
MT300G U/D EZA MIG/MAG welding torch, 1x up/down, gas-cooled • Setting the wire feed speed • With Phoenix Progress and Expert as well as alpha Q, programs can also be optionally selected		094-500019-00200

Torch		Item no.
MT300G 2U/D EZA MIG/MAG welding torch, 2x up/down, gas-cooled • Setting wire-feed speed and welding voltage or correcting the voltage • With Phoenix Progress and Expert as well as alpha Q, programs and JOBs can also be optionally selected		094-500019-00300
MT400G U/D EZA MIG/MAG welding torch, 1x up/down, gas-cooled • Setting the wire feed speed • With Phoenix Progress and Expert as well as alpha Q, programs can also be optionally selected		094-500021-00200
MT400G 2U/D EZA MIG/MAG welding torch, 2x up/down, gas-cooled • Setting wire-feed speed and welding voltage or correcting the voltage • With Phoenix Progress and Expert as well as alpha Q, programs and JOBs can also be optionally selected		094-500021-00300
MT450W EZA MIG/MAG welding torch, water-cooled • Outstanding welding characteristics thanks to separate gas supply and optimal cooling		094-500020-00000
MT450W U/D EZA MIG/MAG welding torch, up/down, water-cooled • Setting the wire feed speed • With Phoenix Progress and Expert as well as alpha Q, programs can also be optionally selected		094-500020-00200
MT450W 2U/D EZA MIG/MAG welding torch, 2 up/down, water-cooled • Water-cooled MIG/MAG welding torch • Setting wire-feed speed and welding voltage or correcting the voltage • With Phoenix Progress and Expert as well as alpha Q, programs and JOBs can also be optionally selected		094-500020-00300
MT550WR EZA MIG/MAG welding torch, water-cooled • Outstanding welding properties are ensured by a separate gas supply and optimal cooling by means of a parallel double-loop cooling system		094-500022-00000
MT550WR U/D EZA MIG/MAG welding torch, up/down, water-cooled • Setting the wire feed speed • With Phoenix Progress and Expert as well as alpha Q, programs can also be optionally selected		094-500022-00200
MT550WR 2U/D EZA MIG/MAG welding torch, 2 up/down, water-cooled • Water-cooled MIG/MAG welding torch • Setting wire-feed speed and welding voltage or correcting the voltage • With Phoenix Progress and Expert as well as alpha Q, programs and JOBs can also be optionally selected		094-500022-00300
MT550WLR U/D EZA MIG/MAG welding torch, up/down, water-cooled • Setting the wire feed speed • With Phoenix Progress and Expert as well as alpha Q, programs can also be optionally selected		094-500022-20200

Options/accessories

Torch		Item no.
MT550WLR 2U/D EZA MIG/MAG welding torch, 2 up/down, water-cooled • Water-cooled MIG/MAG welding torch • Setting wire-feed speed and welding voltage or correcting the voltage • With Phoenix Progress and Expert as well as alpha Q, programs and JOBs can also be optionally selected		094-500022-20300

Remote control		Item no.
R10 Remote control, wire feed rate correction • Robust metal casing with rubber feet, stirrup and holding magnet, 19-pole connection socket		090-008087-00000
R11 Remote control, wire feed rate correction • Robust metal casing with rubber feet, stirrup and holding magnet, 19-pole connection socket		090-008601-00502
RA5 19POL 5M Remote control e.g. connection cable		092-001470-00005

Options for retrofitting		Item no.
ON FILTER T/P Dirt filter for air inlet • Reliably protects the machine from impurities under tough working conditions.		092-002092-00000
ON FSB WHEELS W/T/P Locking brake for machine wheels • Front wheels with locking brake allow the machine to be safely parked even on uneven ground.		092-002110-00000
ON HOSE/FR MOUNT Mount for tubes and remote control for machines without star handle • Keeps the machine in a tidy condition: tubes and cables of e.g. welding torches or remote controls can be coiled in an orderly way on the machine. Also helps to fix remote controls in place		092-002116-00000
ON HOSE/FR MOUNT DK 4L Mount for hoses and remote controls for machines with 4L star handle (092-002112-00000) • Keeps the machine in a tidy condition: tubes and cables of e.g. welding torches or remote controls can be coiled in an orderly way on the machine. Also helps to fix remote controls in place		092-002117-00000
ON DK DRIVE 4L T/P Star handle for housing a Drive 4L type wire feed unit • Swivel mounting of the wire feed unit on the welding machine		092-002112-00000

Options for retrofitting		Item no.
ON DK PHOENIX DRIVE 4 Star handle for housing a Drive 4 type wire feed unit • Swivel mounting of the wire feed unit on the welding machine		092-002280-00000
ON DK PHOENIX DRIVE 4 WHEELS Set of star handle and wheel kit for Drive 4 type wire feed units • Swivel mounting of the wire feed unit on the welding machine		092-002284-00000
ON HOLDER GAS BOTTLE <50L Holding plate for gas cylinders smaller than 50 litres • Transport even small gas cylinders safely on the machine		092-002151-00000
ON SHOCK PROTECT Ram protection • Protects the machine from scratches and dents. Highly recommended if the machine is transported frequently		092-002154-00000
ON TOOL BOX Toolbox between gas cylinder and rear casing panel • Tools and torch replaceable parts always to hand. • Dimensions L x W x H in mm: 240 x 100 x 80		092-002138-00000

Factory-fit options		Item no.
OW REINFORCED PUMP T/P Heavy-duty coolant pump (only ex works) • Recommended for long hose packages. Increases the flow rate to up to 20 l/min and the pressure to max. 4.5 bar		092-002118-00001
OW MULTIVOLT 351/451/551 Multi-voltage (230V/400V/480V) – factory fitting (no retrofitting)		092-002542-00001

Wire feed unit options		Item no.
ON RMSDDV1 Wheel assembly kit for DRIVE 4 • Wheel set – facilitates work at frequently changing welding sites		090-008035-00000
ON RMSDV2 Wheel assembly kit for DRIVE 4L • Wheel set – facilitates work at frequently changing welding sites		090-008151-00000

Options/accessories

Mains plug		Item no.
5POLE/CEE/16A/M Mains plug		094-000712-00000
5POLE/CEE/32A/M Mains plug		094-000207-00000

Coolant		Item no.
KF 23E-10, -10° Coolant (-10 °C), 9.3 l		094-000530-00000
KF 23E-200, -10° Coolant (-10 °C), 200 l		094-000530-00001
KF 37E-10, -20° Coolant (-20 °C), 9.3 l		094-006256-00000

General		Item no.
DM1 32L/MIN Manometer pressure reducer • Single-stage pressure reducer for use with standard MIG/MAG welding equipment		094-000009-00000
AK300 Adapter for K300 basket coil		094-001803-00001

Machine-dependent

Machines	Page	Taurus 301	Taurus 351	Taurus 451	Taurus 551
Wire feed unit					
Taurus Synergic Drive 4 WE	→ 72	–	•	•	•
Taurus Synergic Drive 4L WE	→ 72	–	•	•	•
Intermediate tube packages					
70QMM MIG W 1M 19POL	→ 47	–	•	–	–
Torch					
MT300G EZA	→ 18	•	–	–	–
MT450W EZA	→ 19	–	•	–	–
MT550WR EZA	→ 19	–	–	•	•
Options for retrofitting					
ON FSB WHEELS W/T/P	→ 21	•	•	•	•
ON HOSE/FR MOUNT	→ 21	•	•	•	•
ON DK DRIVE 4L T/P	→ 21	–	•	•	•
ON FILTER T/P	→ 21	–	•	•	•
ON HOLDER GAS BOTTLE <50L	→ 22	–	•	•	•
ON HOSE/FR MOUNT DK 4L	→ 21	–	•	•	•
ON SHOCK PROTECT	→ 22	–	•	•	•
ON TOOL BOX	→ 22	–	•	•	•
ON DK PHOENIX DRIVE 4	→ 21	–	•	•	•
ON DK PHOENIX DRIVE 4 WHEELS	→ 21	–	•	•	•
Factory-fit options					
OW REINFORCED PUMP T/P	→ 22	–	•	•	•
OW MULTIVOLT 351/451/551	→ 53	–	•	•	•
Wire feed unit options					
ON RMSDDV1	→ 22	–	•	•	•
ON RMSDV2	→ 22	–	•	•	•
Mains plug					
5POLE/CEE/16A/M	→ 53	•	–	–	–
5POLE/CEE/32A/M	→ 22	–	•	•	•
Coolant					
KF 23E-10, -10°	→ 22	–	•	•	•
KF 23E-200, -10°	→ 22	–	•	•	•
KF 37E-10, -20°	→ 23	–	•	•	•
General					
AK300	→ 23	•	•	•	•
DM1 32L/MIN	→ 23	•	•	•	•

Control-dependent

Controls	Page	Taurus Basic	Taurus Synergic
Wire feed unit			
Taurus Basic Drive 4 WE	→ 72	•	–
Taurus Basic Drive 4L WE	→ 72	•	–
Taurus Synergic Drive 4 WE	→ 72	–	•
Taurus Synergic Drive 4L WE	→ 72	–	•
Torch			
MT300CG 2U/D EZA	→ 18	•	•
MT300G 2U/D EZA	→ 18	•	•
MT400G 2U/D EZA	→ 18	•	•
MT450W 2U/D EZA	→ 19	•	•
MT550WR 2U/D EZA	→ 19	•	•
MT550WLR 2U/D EZA	→ 19	•	•
MT400G U/D EZA	→ 18	–	•
MT450W U/D EZA	→ 49	–	•
MT300G U/D EZA	→ 18	–	•
MT550WR U/D EZA	→ 19	–	•
MT550WLR U/D EZA	→ 19	–	•
Remote control			
RA5 19POL 5M	→ 20	•	•
R11	→ 74	•	–
R10	→ 20	–	•

Technical data

		Taurus 301						Taurus 351					
		MIG/MAG		TIG		MMA		MIG/MAG		TIG		MMA	
Setting range for welding current	A	5 - 300		5 - 300		5 - 300		5 - 350		5 - 350		5 - 350	
Duty cycle at ambient temperature	°C	25	40	25	40	25	40	25	40	25	40	25	40
60 %	A	–	300	–	300	–	300	–	–	–	–	–	–
80 %	A	300	–	300	–	300	–	–	–	–	–	–	–
100 %	A	270	250	270	250	270	250	350	350	350	350	350	350
Mains frequency	Hz	50 / 60						50 / 60					
Mains fuses (slow-blow)	A	3 x 16						3 x 25					
Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)						3 x 400 V (-25 % - +20 %)					
Max. connected load	kVA	11		8.3		12.1		13.9		10.6		15	
Recommended generator power	kVA	16.4						20.3					
Wire drive rollers		4						4					
Wire speed	m/min	0.5 - 24						0.5 - 24					
Dimensions, machine, L x W x H	mm	930 x 460 x 730						1100 x 455 x 1000					
Weight, machine	kg	69.5						125					
Weight, wire feed	kg	–						13.5					
Protection classification		IP 23						IP 23					
Insulation class		H						H					
Torch connection		Euro central						Euro central					
Cooling output	W	–						1500					
Tank capacity	l	–						12					
Flow rate	l/min	–						5					
Max. output pressure	bar	–						3.5					
Standards		IEC 60 974-1 / IEC 60 974-5 / IEC 60 974-10 / CE / S-Safety sign						IEC 60 974-1 / IEC 60 974-2 / IEC 60 974-10 / CE / S-Safety sign					

Technical data

		Taurus 451						Taurus 551					
		MIG/MAG		MMA		TIG		MIG/MAG		TIG		MMA	
Setting range for welding current	A	5 - 450		5 - 450		5 - 450		5 - 550		5 - 550		5 - 550	
Duty cycle at ambient temperature	°C	25	40	25	40	25	40	25	40	25	40	25	40
60 %	A	–	–	–	–	–	–	550	550	550	550	550	550
80 %	A	–	450	–	450	–	450	520	–	520	–	520	–
100 %	A	450	420	450	420	450	420	450	420	450	420	450	420
Mains frequency	Hz	50 / 60						50 / 60					
Mains fuses (slow-blow)	A	3 x 35						3 x 35					
Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)						3 x 400 V (-25 % - +20 %)					
Max. connected load	kVA	20.7		21.6		15.9		28		22.2		29.2	
Recommended generator power	kVA	29.1						39.4					
Wire drive rollers		4						4					
Wire speed	m/min	0.5 - 24						0.5 - 24					
Dimensions, machine, L x W x H	mm	1100 x 455 x 1000						1100 x 455 x 1000					
Weight, machine	kg	125						–					
Weight, wire feed	kg	13.5						13.5					
Protection classification		IP 23						IP 23					
Insulation class		H						H					
Torch connection		Euro central						Euro central					
Cooling output	W	1500						1500					
Tank capacity	l	12						12					
Flow rate	l/min	5						5					
Max. output pressure	bar	3.5						3.5					
Standards		IEC 60 974-1 / IEC 60 974-2 / IEC 60 974-10 / CE / S-Safety sign						IEC 60 974-1 / IEC 60 974-2 / IEC 60 974-10 / CE / S-Safety sign					

MIG/MAG standard welding machines, step switch controlled

Cutting-edge and cost-effective with excellent price/performance ratio
Innovative and robust are the key attributes of the step switch controlled MIG/MAG generation of machines. The three product lines Mira, Saturn and Wega are systematically coordinated to current and future practical needs in terms of their design, price/performance, welding properties and operation.

Overview

MIG/MAG standard welding machines, step switch controlled mobile

Design	Max. welding current	Product name	Cooling		Page
	A		gas cooled	water cooled	
Compact	150	Mira 151	•	–	86
	220	Mira 221 MV	•	–	86
	250	Mira 251	•	–	87
	300	Mira 301	•	–	87
		Saturn 301	•	–	87
	350	Saturn 351	•	–	88
Decompact	400	Wega 401	–	•	88
	500	Wega 501	–	•	88
	600	Wega 601	–	•	89

Product details	Page
Controls	90
Machine control overview	90
Control details	91
Control functions	93
Options/accessories	98
Details	94
Machine-dependent	98
Control-dependent	100
Technical data	101

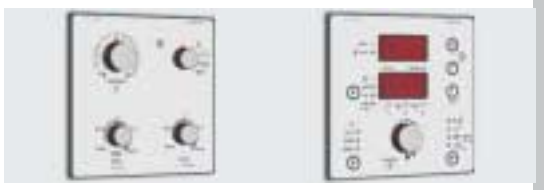
The robust machines with optimal performance

High quality bundled into two versions: the gas-cooled, compact Mira and Saturn machines with integrated wire feed or the water-cooled Wega with separate wire feed unit and optional Synergic operation.

Highlights

The perfect start

Optimised ignition characteristics plus creep start and free-burn functions ensure reproducible ignition of the arc.



Self-explanatory and clear operating concepts

M1.02 – traditional operation, all settings directly accessible

M2.40 – Synergic single-button operation with simple selection of material, wire and gas type via JOB list and digital display

Excellent welding properties

Fine welding voltage adjustment and optimised welding choke guarantee perfect adaptation to different materials. Saturn and Wega with additional taps.

Tried-and-tested operation

The operating point is selected using the step switch and wire feed controller

Practical: robust metal casing

Phosphatised, powder-coated sheet steel – corrosion-resistant, ideal for tough applications

Minimised finishing work for high cost-effectiveness

Low-spatter joining with short arc and spray arc – using argon, CO2 or mixed gases. This saves time and costs.

Advantages

7-litre tank

Easy commissioning even with long intermediate hose packages and safe operation at high temperatures and for extended duty cycles

4 lifting lugs as standard

100% mobile for transportation in production halls and shipyards with restricted access

Connected in no time

Screw and plug-in connections for intermediate hose package located externally on wire feed

Mobility for any location

Large wheels for easy running – even on very uneven surfaces. Same gauge on front and rear wheels facilitates transport

Total convenience

No tools required for roller change, Each roller is suitable for two different wire diameters

Multi-functional, ergonomic handle system

Effortless running, practical holder for hose packages, impact protection

Mira / Saturn / Wega

- Perfect ignition and welding properties
- Modular
- Mira – particularly small dimensions
- Wega – decompact, with separate wire feed unit
- Saturn/Wega – a choice of two self-explanatory operating concepts – M1.02 and M2.40 – to meet every user's practical needs

Mira 151

Controls → 90
Options/accessories → 98
Technical data → 101

- 2-roller wire feed Equipped for 0.8 mm + 1.0 mm steel wires
- 3 m mains supply lead with 16 A shock-proof plug
- Mobile

CV

Mains voltage (tolerances)		1 x 230 V (-15 % - +15 %)
Mains fuses (slow-blow)	A	1 x 16
Setting range for welding current	A	30 - 150
Duty cycle 25 °C (40 °C)		150 A / 25 % (150 A / 15 %)
Duty cycle 25 °C (40 °C)		70 A / 100 % (55 A / 100 %)
Dimensions L x W x H	mm	880 x 385 x 610
Weight	kg	47

Mira 221 MV

Controls → 90
Options/accessories → 98
Technical data → 101

- 2-roller wire feed Equipped for 0.8 mm + 1.0 mm steel wires
- Mobile
- 5 m mains supply lead with CEE 16 A plug and 16 A shock-proof adapter

CV

Mains voltage (tolerances)		1 x 230 V (-15 % - +15 %)
Mains fuses (slow-blow)	A	1 x 16
Setting range for welding current	A	30 - 220
Duty cycle 25 °C (40 °C)		220 A / 25 % (220 A / 15 %)
Duty cycle 25 °C (40 °C)		105 A / 100 % (85 A / 100 %)
Dimensions L x W x H	mm	880 x 385 x 610
Weight	kg	56

Mira 221 MV
Flexible for every mains grid. 230 V or 400 V

Easy servicing and maintenance
Rapid changeover of welding accessories with connection sockets for welding torches and workpiece lead

Mira 251

Controls → 90
Options/accessories → 98
Technical data → 101

- 4-roller wire feed Equipped for 0.8 mm + 1.0 mm steel wires
- 5 m mains supply lead with CEE 16 A plug
- Mobile

Mains voltage (tolerances)		3 x 400 V (-15 % - +15 %)
Mains fuses (slow-blow)	A	3 x 16
Setting range for welding current	A	30 - 250
Duty cycle 25 °C (40 °C)		250 A / 35 % (250 A / 20 %)
Duty cycle 25 °C (40 °C)		150 A / 100 % (125 A / 100 %)
Dimensions L x W x H	mm	880 x 385 x 610
Weight	kg	60

Mira 301

Controls → 90
Options/accessories → 98
Technical data → 101

- 4-roller wire feed Equipped for 0.8 mm + 1.0 mm steel wires
- 5 m mains supply lead with CEE 16 A plug
- Mobile

Mains voltage (tolerances)		3 x 400 V (-15 % - +15 %)
Mains fuses (slow-blow)	A	3 x 16
Setting range for welding current	A	30 - 300
Duty cycle 25 °C (40 °C)		300 A / 35 % (300 A / 20 %)
Duty cycle 25 °C (40 °C)		170 A / 100 % (150 A / 100 %)
Dimensions L x W x H	mm	880 x 385 x 610
Weight	kg	72

Saturn 301

Controls → 90
Options/accessories → 98
Technical data → 101

- Mobile, can be lifted by crane and moved by fork lift
- 4-roller wire feed Equipped for 0.8 mm + 1.0 mm steel wires
- 5 m mains supply lead

Mains voltage (tolerances)		3 x 400 V (-15 % - +15 %)
Mains fuses (slow-blow)	A	3 x 25
Setting range for welding current	A	30 - 300
Duty cycle 25 °C (40 °C)		300 A / 45 % (300 A / 40 %)
Duty cycle 25 °C (40 °C)		250 A / 60 % (190 A / 60 %)
Duty cycle 25 °C (40 °C)		190 A / 100 % (160 A / 100 %)
Dimensions L x W x H	mm	930 x 460 x 730
Weight	kg	100

Synergic operation
Very easy to set the operating point – all welding parameters and the optimum characteristics are set as per the pre-selected welding task using just one rotary dial

Will pass through manholes
Wire feed unit can be transported easily thanks to central handle, light weight, compact design

Saturn 351

Controls → 90
Options/accessories → 98
Technical data → 101

- Mobile, can be lifted by crane and moved by fork lift
- 4-roller wire feed Equipped for 0.8 mm + 1.0 mm steel wires
- 5 m mains supply lead

CV

Mains voltage (tolerances)		3 x 400 V (-15 % - +15 %)
Mains fuses (slow-blow)	A	3 x 25
Setting range for welding current	A	30 - 350
Duty cycle 25 °C (40 °C)		350 A / 45 % (350 A / 40 %)
Duty cycle 25 °C (40 °C)		300 A / 60 % (250 A / 60 %)
Duty cycle 25 °C (40 °C)		250 A / 100 % (220 A / 100 %)
Dimensions L x W x H	mm	930 x 460 x 730
Weight	kg	112

Wega 401

Controls → 90
Options/accessories → 98
Technical data → 102

- Mobile, can be lifted by crane and moved by fork lift
- 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires
- Powerful cooling system with centrifugal pump and 7 l tank. Temperature-controlled pump and fan
- 5 m mains supply lead

CV

Mains voltage (tolerances)		3 x 400 V (-15 % - +15 %)
Mains fuses (slow-blow)	A	3 x 25
Setting range for welding current	A	30 - 400
Duty cycle 25 °C (40 °C)		400 A / 70 % (400 A / 60 %)
Duty cycle 25 °C (40 °C)		300 A / 100 % (300 A / 100 %)
Dimensions L x W x H	mm	1100 x 560 x 1000
Weight	kg	159
Dimensions, wire feed unit L x W x H	mm	690 x 300 x 410
Weight, wire feed	kg	12

Wega 501

Controls → 90
Options/accessories → 98
Technical data → 102

- Mobile, can be lifted by crane and moved by fork lift
- 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires
- Powerful cooling system with centrifugal pump and 7 l tank. Temperature-controlled pump and fan
- 5 m mains supply lead

CV

Mains voltage (tolerances)		3 x 400 V (-15 % - +15 %)
Mains fuses (slow-blow)	A	3 x 32
Setting range for welding current	A	50 - 500
Duty cycle 25 °C (40 °C)		500 A / 70 % (500 A / 60 %)
Duty cycle 25 °C (40 °C)		400 A / 100 % (400 A / 100 %)
Dimensions L x W x H	mm	950 x 560 x 1010
Weight	kg	200
Dimensions, wire feed unit L x W x H	mm	690 x 300 x 410
Weight, wire feed	kg	12

Total convenience
No tools required for roller change. Each drive roller suits two different wire diameters. Extra versions for steel, aluminium and cored wire

Clarity
Inspection window for checking the level of wire spool quickly

Wega 601

Controls → 90
Options/accessories → 98
Technical data → 102

- Mobile, can be lifted by crane and moved by fork lift
- 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires
- Powerful cooling system with centrifugal pump and 7 l tank. Temperature-controlled pump and fan
- 5 m mains supply lead

Mains voltage (tolerances)		3 x 400 V (-15 % - +15 %)
Mains fuses (slow-blow)	A	3 x 32
Setting range for welding current	A	50 - 600
Duty cycle 25 °C (40 °C)		600 A / 60 % (600 A / 45 %)
Duty cycle 25 °C (40 °C)		450 A / 100 % (450 A / 100 %)
Dimensions L x W x H	mm	960 x 560 x 1010
Weight	kg	228
Dimensions, wire feed unit L x W x H	mm	690 x 300 x 410
Weight, wire feed	kg	12

Safe and reliable
Integrated temperature monitor for overload protection

Additional dirt filter
For particularly tough sites of operation (option)

Machine control overview

Controls	M1.02	M2.40
Machines		
Mira 151	•	–
Mira 221 MV	•	–
Mira 251	•	–
Mira 301	•	–
Saturn 301	•	•
Saturn 351	•	•
Wega 401	•	•
Wega 501	•	•
Wega 601	•	•

Control details

M1.02

Classic operation

- Direct access to all welding parameters via rotary dials and switches
- Twin-knob operation with clear, self-explanatory operating surface

Control details

M2.40

Easy operation

- Direct access to all welding parameters on the wire feed unit
- 24 pre-programmed JOBs (welding tasks) with selection via JOB list
- Synergic operation with clear, self-explanatory operating surface
- Reproducible setting of all welding parameters with digital displays

Control functions

Control	M1.02	M2.40
Functions		
General		
MIG/MAG	•	•
Non-latched	•	•
Latched	•	•
Spots	•	•
Interval	•	•
Twin-knob operation	•	•
Synergic operation	–	•
Hold function	–	•
Material, Wire, Gas - settings via JOB-list	–	•
Wire inching, currentless	•	•
Gas test, currentless	•	•
Rinse tube package	–	•
Displays		
LED	–	•
Welding current	–	•
Welding voltage	–	•
Wire speed	–	•
Metal sheet thickness	–	•
Ready for operation	•	•

Options/accessories

Power sources	Item no.
Mira 151 KGE Step switch controlled MIG/MAG welding machine, compact, gas, Euro central connector, 2-roller drive unit, ready-to-weld with MIG welding torch, workpiece lead, pressure reducer, gas tube, basket coil adapter	091-005084-00502
Mira 221 MV KGE Step switch controlled MIG/MAG welding machine, compact, gas, Euro central connector, 2-roller drive unit, ready-to-weld with MIG welding torch, workpiece lead, pressure reducer, gas tube, basket coil adapter, CEE to shock-proof plug adapter	091-005085-00502
Mira 251 KGE Step switch controlled MIG/MAG welding machine, compact, gas, Euro central connector, 4-roller drive unit, ready-to-weld with MIG welding torch, workpiece lead, pressure reducer, gas tube, basket coil adapter	091-005086-00502
Mira 301 KGE Step switch controlled MIG/MAG welding machine, compact, gas, Euro central connector, 4-roller drive unit, ready-to-weld with MIG welding torch, workpiece lead, pressure reducer, gas tube, basket coil adapter	091-005087-00502
Saturn 301 KGE M2.40 4R Step switch controlled MIG/MAG welding machine, compact, gas, Euro central connector, 4-roller drive unit	090-004979-00502
Saturn 351 KGE M2.40 4R Step switch controlled MIG/MAG welding machine, compact, gas, Euro central connector, 4-roller drive unit	090-004985-00502
Wega 401 DW Step switch controlled MIG/MAG welding machine, decompact, water	090-004949-00502
Wega 501 DW Step switch controlled MIG/MAG welding machine, decompact, water	090-005088-00502
Wega 601 DW Step switch controlled MIG/MAG welding machine, decompact, water	090-005089-00502

Wire feed unit		Item no.
Wega Drive 41L M1.02 WE Wire feed unit, water, Euro central connector • 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires • Pin reel type D300 • Dimensions: L x W x H in mm, 690 x 300 x 410. Weight 12 kg		090-004965-00502
Wega Drive 41 M1.02 WE Wire feed unit, water, Euro central connector • 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires • Pin reel type D300 • Dimensions: L x W x H in mm, 680 x 460 x 265. Weight 24 kg		090-004962-00502
Wega Drive 41L M2.40 WE Wire feed unit, water, Euro central connector • 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires • Pin reel type D300 • Dimensions: L x W x H in mm, 690 x 300 x 410. Weight 12 kg		090-004967-00502
Wega Drive 41 M2.40 WE Wire feed unit, water, Euro central connector • 4-roller wire feed Equipped for 1.0 mm + 1.2 mm steel wires • Pin reel type D300 • Dimensions: L x W x H in mm, 680 x 460 x 265. Weight 24 kg		090-004964-00502

Intermediate tube packages		Item no.
70QMM MIG W 1M 7POL Intermediate tube package, for machines with water cooling, 7-pole		094-000406-00000

Intermediate tube packages		Item no.
95QMM MIG W 1M 7POL Intermediate tube package, for machines with water cooling, 7-pole		094-000407-00000

Torch		Item no.
MT300G EZA MIG/MAG welding torch, gas-cooled • Outstanding welding characteristics are ensured by a separate gas supply and optimal cooling by means of a profiled gas channels • Microswitch with gold-plated contacts and dust protection according to IP65 with defined pressure points for ultimate precision • Ergonomically formed grip plate takes the strain out of work		094-500019-00000
MT550WR EZA MIG/MAG welding torch, water-cooled • Outstanding welding properties are ensured by a separate gas supply and optimal cooling by means of a parallel double-loop cooling system		094-500022-00000

Options for retrofitting		Item no.
ON FILTER S Dirt filter for air inlet • Reliably protects the machine from impurities under tough working conditions.		092-002090-00000
ON FILTER W Dirt filter for air inlet • Reliably protects the machine from impurities under tough working conditions.		092-002091-00000
ON FSB WHEELS S Locking brake for machine wheels		092-002109-00000
ON FSB WHEELS W/T/P Locking brake for machine wheels • Front wheels with locking brake allow the machine to be safely parked even on uneven ground.		092-002110-00000
ON HOSE/FR MOUNT Mount for tubes and remote control for machines without star handle • Keeps the machine in a tidy condition: tubes and cables of e.g. welding torches or remote controls can be coiled in an orderly way on the machine. Also helps to fix remote controls in place		092-002116-00000
ON HOSE/FR MOUNT DK 4L Mount for hoses and remote controls for machines with 4L star handle (092-002112-00000) • Keeps the machine in a tidy condition: tubes and cables of e.g. welding torches or remote controls can be coiled in an orderly way on the machine. Also helps to fix remote controls in place		092-002117-00000

Options/accessories

Options for retrofitting		Item no.
ON DK DRIVE L WEGA Star handle for housing a Drive 41 L type wire feed unit • Swivel mounting of the wire feed unit on the welding machine		092-002113-00000
ON HOLDER GAS BOTTLE <50L Holding plate for gas cylinders smaller than 50 litres • Transport even small gas cylinders safely on the machine		092-002151-00000
ON TOOL BOX Toolbox between gas cylinder and rear casing panel • Tools and torch replaceable parts always to hand. • Dimensions L x W x H in mm: 240 x 100 x 80		092-002138-00000

Factory-fit options		Item no.
OW REINFORCED PUMP WEGA Heavy-duty coolant pump (only ex works)		092-002119-00001

Wire feed unit options		Item no.
ON DRAHTEINSCHLEICH POTI M1.02 Rotary dial for setting the wire creep speed		092-001102-00000
ON RMSDDV1 Wheel assembly kit for DRIVE 4 • Wheel set – facilitates work at frequently changing welding sites		090-008035-00000
ON RMSDV2 Wheel assembly kit for DRIVE 4L • Wheel set – facilitates work at frequently changing welding sites		090-008151-00000

Mains plug		Item no.
ADAP CEE/SCHUKO Plug socket adapter, 0.5 m 16 A CEE/shock-proof		092-000928-00000
5POLE/CEE/32A/M Mains plug		094-000207-00000

Coolant		Item no.
KF 23E-10, -10° Coolant (-10 °C), 9.3 l		094-000530-00000
KF 23E-200, -10° Coolant (-10 °C), 200 l		094-000530-00001
KF 37E-10, -20° Coolant (-20 °C), 9.3 l		094-006256-00000

General		Item no.
DM1 32L/MIN Manometer pressure reducer • Single-stage pressure reducer for use with standard MIG/MAG welding equipment		094-000009-00000
AK300 Adapter for K300 basket coil		094-001803-00001

Machine-dependent

Machines	Page	Mira 151	Mira 221 MV	Mira 251	Mira 301	Saturn 301	Saturn 351
Wire feed unit							
Wega Drive 41 M2.40 WE	→ 94	–	–	–	–	–	–
Wega Drive 41L M2.40 WE	→ 94	–	–	–	–	–	–
Intermediate tube packages							
70QMM MIG W 1M 7POL	→ 17	–	–	–	–	–	–
95QMM MIG W 1M 7POL	→ 17	–	–	–	–	–	–
Torch							
MT300G EZA	→ 18	–	–	–	–	•	•
MT550WR EZA	→ 19	–	–	–	–	–	–
Options for retrofitting							
ON FILTER S	→ 95	–	–	–	–	•	•
ON FSB WHEELS S	→ 95	–	–	–	–	•	•
ON HOSE/FR MOUNT	→ 21	–	–	–	–	•	•
ON DK DRIVE L WEGA	→ 96	–	–	–	–	–	–
ON FILTER W	→ 95	–	–	–	–	–	–
ON FSB WHEELS W/T/P	→ 21	–	–	–	–	–	–
ON HOLDER GAS BOTTLE <50L	→ 22	–	–	–	–	–	–
ON HOSE/FR MOUNT DK 4L	→ 21	–	–	–	–	–	–
ON TOOL BOX	→ 22	–	–	–	–	–	–
Factory-fit options							
OW REINFORCED PUMP WEGA	→ 96	–	–	–	–	–	–
Wire feed unit options							
ON DRAHTEINSCHLEICH POTI M1.02	→ 96	–	–	–	–	•	•
ON RMSDDV1	→ 22	–	–	–	–	–	–
ON RMSDV2	→ 22	–	–	–	–	–	–
Mains plug							
ADAP CEE/SCHUKO	→ 96	–	•	–	–	–	–
5POLE/CEE/32A/M	→ 22	–	–	–	–	•	•
Coolant							
KF 23E-10, -10°	→ 22	–	–	–	–	–	–
KF 23E-200, -10°	→ 22	–	–	–	–	–	–
KF 37E-10, -20°	→ 23	–	–	–	–	–	–
General							
AK300	→ 23	•	•	•	•	•	•
DM1 32L/MIN	→ 23	–	–	–	–	•	•

Machines	Page	Wega 401	Wega 501	Wega 601
Wire feed unit				
Wega Drive 41 M2.40 WE	→ 94	•	•	•
Wega Drive 41L M2.40 WE	→ 94	•	•	•
Intermediate tube packages				
70QMM MIG W 1M 7POL	→ 17	•	–	–
95QMM MIG W 1M 7POL	→ 17	–	•	•
Torch				
MT300G EZA	→ 18	–	–	–
MT550WR EZA	→ 19	•	•	•
Options for retrofitting				
ON FILTER S	→ 95	–	–	–
ON FSB WHEELS S	→ 95	–	–	–
ON HOSE/FR MOUNT	→ 21	•	–	–
ON DK DRIVE L WEGA	→ 96	•	–	–
ON FILTER W	→ 95	•	–	–
ON FSB WHEELS W/T/P	→ 21	•	–	–
ON HOLDER GAS BOTTLE <50L	→ 22	•	–	–
ON HOSE/FR MOUNT DK 4L	→ 21	•	–	–
ON TOOL BOX	→ 22	•	–	–
Factory-fit options				
OW REINFORCED PUMP WEGA	→ 96	•	–	–
Wire feed unit options				
ON DRAHTEINSCHLEICH POTI M1.02	→ 96	•	–	–
ON RMSDDV1	→ 22	•	–	–
ON RMSDV2	→ 22	•	–	–
Mains plug				
ADAP CEE/SCHUKO	→ 96	–	–	–
5POLE/CEE/32A/M	→ 22	•	•	•
Coolant				
KF 23E-10, -10°	→ 22	•	•	•
KF 23E-200, -10°	→ 22	•	•	•
KF 37E-10, -20°	→ 23	•	•	•
General				
AK300	→ 23	•	•	•
DM1 32L/MIN	→ 23	•	•	•

Control-dependent

Controls	Page	M1.02	M2.40
Wire feed unit			
Wega Drive 41 M1.02 WE	➔ 94	•	–
Wega Drive 41L M1.02 WE	➔ 94	•	–
Wega Drive 41 M2.40 WE	➔ 94	–	•
Wega Drive 41L M2.40 WE	➔ 94	–	•

Technical data

		Mira 151		Mira 221 MV		Mira 251		Mira 301		Saturn 301		Saturn 351	
		MIG/MAG		MIG/MAG		MIG/MAG		MIG/MAG		MIG/MAG		MIG/MAG	
Mains voltage	V	230		400		400		400		400		400	
Setting range for welding current	A	30 - 150		30 - 220		30 - 250		30 - 300		30 - 300		30 - 350	
Duty cycle at ambient temperature	°C	25	40	25	40	25	40	25	40	25	40	25	40
15 %	A	–	150	–	220	–	–	–	–	–	–	–	–
20 %	A	–	–	–	–	–	250	–	300	–	–	–	–
25 %	A	150	–	220	–	–	–	–	–	–	–	–	–
35 %	A	–	–	–	–	250	–	300	–	–	–	–	–
40 %	A	–	–	–	–	–	–	–	–	–	300	–	350
45 %	A	–	–	–	–	–	–	–	–	300	–	350	–
60 %	A	–	–	–	–	–	–	–	–	250	190	300	250
100 %	A	70	55	105	85	150	125	170	150	190	160	250	220
Mains frequency	Hz	50 / 60		50 / 60		50 / 60		50 / 60		50 / 60		50 / 60	
Mains fuses (slow-blow)	A	1 x 16		1 x 16		3 x 16		3 x 16		3 x 25		3 x 25	
Mains voltage (tolerances)		1 x 230 V (-15 % - +15 %)		1 x 230 V (-15 % - +15 %)		3 x 400 V (-15 % - +15 %)		3 x 400 V (-15 % - +15 %)		3 x 400 V (-15 % - +15 %)		3 x 400 V (-15 % - +15 %)	
Max. connected load	kVA	4.7		8		9.6		12.8		12.8		16	
Recommended generator power	kVA	6.4		10.9		13		18		18		21.5	
Wire drive rollers		2		2		4		4		4		4	
Wire speed	m/min	1.5 - 15		1.5 - 20		1.5 - 20		1.5 - 20		0.5 - 24		0.5 - 24	
Dimensions, machine, L x W x H	mm	880 x 385 x 610		880 x 385 x 610		880 x 385 x 610		880 x 385 x 610		930 x 460 x 730		930 x 460 x 730	
Weight, machine	kg	47		56		60		72		100		112	
Switching steps		6		6		8		8		12		16	
Protection classification		IP 23		IP 23		IP 23		IP 23		IP 23		IP 23	
Insulation class		H		H		H		–		H		H	
Torch connection		Euro central		Euro central		Euro central		Euro central		Euro central		Euro central	
Standards		IEC 60 974-1 / IEC 60 974-5 / IEC 60 974-10 / CE / S-Safety sign		IEC 60 974-1 / IEC 60 974-5 / IEC 60 974-10 / CE / S-Safety sign		IEC 60 974-1 / IEC 60 974-5 / IEC 60 974-10 / CE / S-Safety sign		IEC 60 974-1 / IEC 60 974-5 / IEC 60 974-10 / CE / S-Safety sign		IEC 60 974-1 / IEC 60 974-5 / IEC 60 974-10 / CE / S-Safety sign		IEC 60 974-1 / IEC 60 974-5 / IEC 60 974-10 / CE / S-Safety sign	

Technical data

		Wega 401		Wega 501		Wega 601	
		MIG/MAG		MIG/MAG		MIG/MAG	
Mains voltage	V	400		400		400	
Setting range for welding current	A	30 - 400		50 - 500		50 - 600	
Duty cycle at ambient temperature	°C	25	40	25	40	25	40
45 %	A	–	–	–	–	–	600
60 %	A	–	400	–	500	600	–
70 %	A	400	–	500	–	–	–
100 %	A	300	300	400	400	450	450
Mains frequency	Hz	50 / 60		50 / 60		50 / 60	
Mains fuses (slow-blow)	A	3 x 25		3 x 32		3 x 32	
Mains voltage (tolerances)		3 x 400 V (-15 % - +15 %)		3 x 400 V (-15 % - +15 %)		3 x 400 V (-15 % - +15 %)	
Max. connected load	kVA	19.2		27.5		36.7	
Recommended generator power	kVA	26		32		50	
Wire drive rollers		4		4		4	
Wire speed	m/min	0.5 - 24		0.5 - 24		0.5 - 24	
Dimensions, machine, L x W x H	mm	1100 x 560 x 1000		950 x 560 x 1010		960 x 560 x 1010	
Weight, machine	kg	159		200		228	
Weight, wire feed	kg	12		12		12	
Switching steps		12 (2)		12 (3)		12 (3)	
Protection classification		IP 23		IP 23		IP 23	
Insulation class		H		H		H	
Torch connection		Euro central		Euro central		Euro central	
Cooling output	W	1200		1200		1200	
Tank capacity	l	9		9		7	
Flow rate	l/min	5		5		5	
Max. output pressure	bar	3.5		3.5		3.5	
Standards		IEC 60 974-1 / IEC 60 974-5 / IEC 60 974-10 / CE / S-Safety sign		IEC 60 974-1 / IEC 60 974-5 / IEC 60 974-10 / CE / S-Safety sign		IEC 60 974-1 / IEC 60 974-5 / IEC 60 974-10 / CE / S-Safety sign	

TIG DC welding machines

The ideal partner for every task

Very handy, high power and easy to transport – these are the features of the TIG power sources with innovative EWM inverter technology. The ideal partner for professional TIG and MMA welding with direct current on unalloyed, low-alloy and high-alloy steel and special metals.

The best technology for every application: assembly in pipe construction or production of containers and equipment. The high joint quality combined with low energy consumption is exemplary – and highly beneficial both economically and environmentally. The flexibility of this technology reaches new dimensions when combined with the new TIG processes activArc and spotArc and the chosen intuitive operating concept.

Overview

TIG DC welding machines portable

Design	Max. welding current	Product name	Cooling			Page
	A		gas cooled	Opti-onal cooling module	water cooled	
--	180	Picotig 180	•	–	–	108
			•	–	–	108
		Tetrix 180	•	–	–	109
Modular	230	Tetrix 230	•	•	–	109
	270	Tetrix 270	•	•	–	109
	300	Tetrix 300	•	•	–	110

TIG DC welding machines mobile

Design	Max. welding current	Product name	Cooling			Page
	A		gas cooled	Opti-onal cooling module	water cooled	
Demodular	350	Tetrix 351	–	–	•	114
	450	Tetrix 451	–	–	•	114
	550	Tetrix 551	–	–	•	115

Product details	Page
Controls	116
Machine control overview	116
Control details	117
Control functions	122
Options/accessories	129
Details	123
Machine-dependent	129
Control-dependent	131
Technical data	132

Professional assembly machines

The portable units are extremely small, compact and light – transportation is effortless on ladders and scaffolding as well as in confined spaces. Output is always constant: large voltage fluctuations on generators or construction site mains supply present no problem!

Picotig

Highlights

Easy to use on site

The Retox torch allows all programs, operating modes and the up/down function to be called up at the touch of a button.

Endless power with a 1-phase mains supply

230 amperes welding current from a 230 volt mains supply with shock-proof plug (16 ampere mains fuse)

Reliable ignition

Reproducible, electronic HF ignition and coordinated welding start parameters ensure the best ignition conditions for every application.

Spotmatic – saves50% of tacking time

The arc is ignited fully automatically without actuating the torch trigger by simply touching the tip of the electrode with the workpiece. Hundreds of reproducible tacks can be made without tungsten inclusions.

activArc – easy, cost-effective, perfect

Precise, focused arc with high plasma pressure for fast, reliable welding with compensated output: targeted heat feeding and deep fusion penetration for perfect root formation.
Unbeatable: huge cost savings and outstanding quality.

100% suitable for construction sites

Perfect for large construction sites and very tough assembly work with mains supply leads up to 50 metres or connected directly to a generator. High tolerance to mains fluctuations ensures a perfect welding result.

Advantages

Combine effectively and as required

Easy combination of e.g. cooling module or transport vehicle – no specialist staff or tools required and no need to open the welding machine. Innovative and easy to expand to meet future needs.

Super-fast attachment of cooling module

The unique fastening system guarantees easy attachment and detachment. The catches are fully integrated in the casing so there is no protrusion and therefore no risk of injury.

Cooling unit with centrifugal pump

Optimal welding torch cooling

Well thought-out: Casing and cooling air conduction

Fan control plus blades minimise dirt in the machine

Modern, ergonomic casing

The front and rear sections of the machine are made of shock-resistant plastic with rounded corners and edges, so the welder and the machine have the best protection in any situation.

Operating elements

Particularly stable, clear and protected layout – allows especially easy handling

Picotig/Tetrix portable

- Exceptional MMA welding
- Different controls can be selected – can also be exchanged

Picotig 180

Controls → 116
Options/accessories → 129
Technical data → 132

- 3 m mains supply lead with 16 A shock-proof plug

Mains voltage (tolerances)		1 x 230 V (-40 % - +15 %)
Mains fuses (slow-blow)	A	1 x 16
Setting range for welding current	A	5 - 180
Duty cycle 40 °C		180 A / 35 %
Duty cycle 40 °C		150 A / 60 %
Duty cycle 40 °C		120 A / 100 %
Dimensions L x W x H	mm	475 x 135 x 250
Weight	kg	6.9

Picotig 180

Controls → 116
Options/accessories → 129
Technical data → 132

- Multivolt: automatic mains voltage adaptation (115 V/230 V)
- Portable, shoulder strap
- 5 m mains supply lead

Mains voltage (tolerances)		1 x 230 V (-20 % - +15 %)	1 x 115 V (-15 % - +15 %)
Mains fuses (slow-blow)	A	1 x 16	1 x 25
Setting range for welding current	A	5 - 180	5 - 150
Duty cycle 40 °C		180 A / 35 %	150 A / 35 %
Duty cycle 40 °C		150 A / 60 %	120 A / 60 %
Duty cycle 40 °C		120 A / 100 %	100 A / 100 %
Dimensions L x W x H	mm	475 x 180 x 295	
Weight	kg	8.9	

Overvoltage protection
Accidental connection to 400 V mains voltage does not result in damage to the machine

Internationally reliable operation
Mains current limit can be programmed to 10 amperes which prevents blown fuses – and therefore unnecessary work interruptions.

Tetrix 180

Controls → 116
Options/accessories → 129
Technical data → 133

- More effective welding with activArc technology
- 3 m mains supply lead with 16 A shock-proof plug

Mains voltage (tolerances)		1 x 230 V (-40 % - +15 %)
Mains fuses (slow-blow)	A	1 x 16
Setting range for welding current	A	5 - 180
Duty cycle 40 °C		180 A / 35 %
Duty cycle 40 °C		150 A / 60 %
Duty cycle 40 °C		120 A / 100 %
Dimensions L x W x H	mm	475 x 180 x 295
Weight	kg	8.9

Tetrix 230

Controls → 116
Options/accessories → 129
Technical data → 133

- More effective welding with activArc technology
- 3 m mains supply lead with 16 A shock-proof plug

Mains voltage (tolerances)		1 x 230 V (-40 % - +15 %)
Mains fuses (slow-blow)	A	1 x 16
Setting range for welding current	A	3 - 230
Duty cycle 40 °C		230 A / 35 %
Duty cycle 40 °C		160 A / 60 %
Duty cycle 40 °C		130 A / 100 %
Dimensions L x W x H	mm	600 x 205 x 415
Weight	kg	16.5

Tetrix 270

Controls → 116
Options/accessories → 129
Technical data → 133

- More effective welding with activArc technology
- 5 m mains supply lead

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 16
Setting range for welding current	A	5 - 270
Duty cycle 40 °C		270 A / 45 %
Duty cycle 40 °C		180 A / 100 %
Dimensions L x W x H	mm	600 x 205 x 415
Weight	kg	20

Perfect welding tacks with the spotArc torch
Universally applicable thanks to the possibility of connecting two panels with the same or different thicknesses – clean seam finish for visible connections

Automatic pulses
When tacking and spot welding workpieces, automated pulses ensure current-dependent pulse frequency and balance which enhance air gap bridging.

Tetrix 300

Controls → 116
Options/accessories → 129
Technical data → 134

- More effective welding with activArc technology
- 5 m mains supply lead

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 16
Setting range for welding current	A	5 - 300
Duty cycle 40 °C		300 A / 60 %
Duty cycle 40 °C		250 A / 100 %
Dimensions L x W x H	mm	590 x 230 x 380
Weight	kg	29

Additional dirt filter
For particularly tough sites of operation (option)

Targeted and concentrated: kHz pulses
Metallurgical pulsing gives the TIG arc the desired plasma arc qualities. activArc in combination with kHz pulses significantly amplifies all positive effects.

Ideal for professional TIG welders

Round-the-clock use! These fully digital, mobile machines have a uniquely high output and duty cycle for continuous use in production, e.g. in multi-shift operation.
The innovative inverter power unit also allows massive savings on energy costs thanks to its highly efficient performance.

Tetrix

Highlights

Easy to use on site

The Retox torch allows all programs, operating modes and the up/down function to be called up at the touch of a button.

TIG wire feed unit – the alternative to MIG/MAG welding

Better seam quality and totally spatter-free at a comparable welding speed. Also as a hot wire variation with an even higher deposition rate.

TIG Synergic control – perfect for large applications

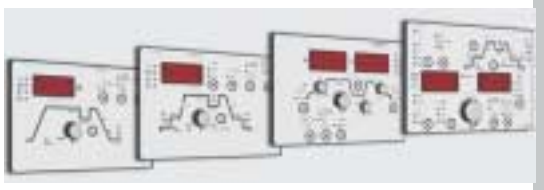
Simplest possible operation with maximum ease-of-use: JOB (welding task) can be selected via material type, seam type, tungsten electrode diameter and welding current/panel thickness. The digital system automatically finds the best welding parameters.

activArc – easy, cost-effective, perfect

Precise, focused arc with high plasma pressure for fast, reliable welding with compensated output: targeted heat transfer and deep fusion penetration for perfect root formation. Unbeatable: huge cost savings and outstanding quality.

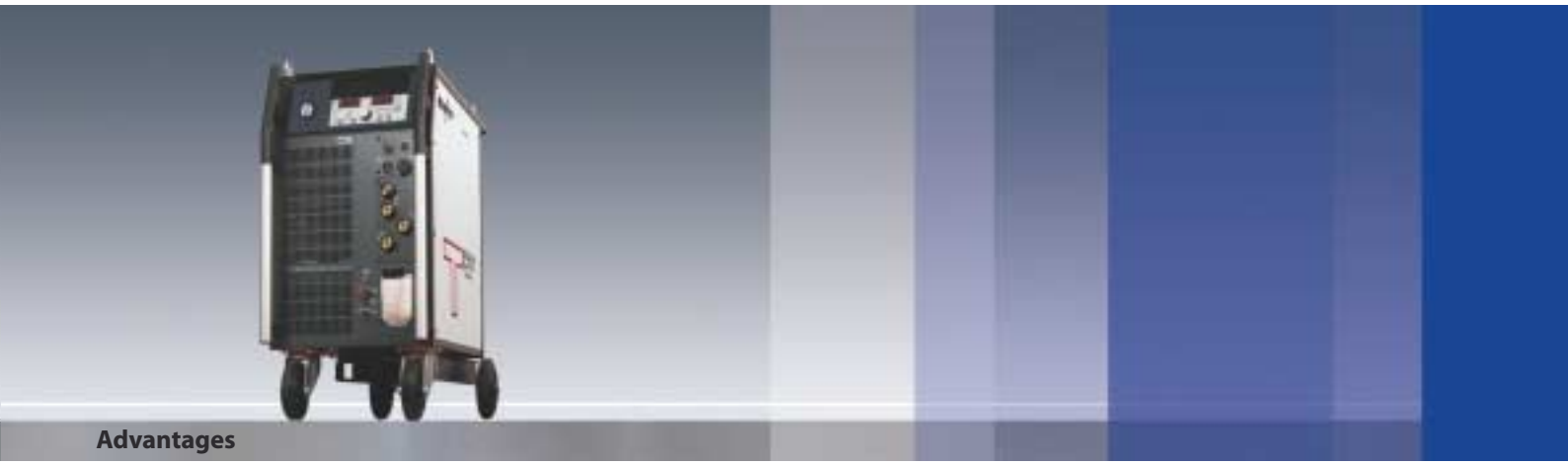
Targeted and concentrated: kHz pulses

Metallurgical pulsing gives the TIG arc the desired plasma arc qualities. activArc in combination with kHz pulses significantly amplifies all positive effects.



Self-explanatory operating concepts for every user

Classic – all parameters at a glance and directly accessible
Comfort – 8 predefinable welding tasks for frequently repeated welding operations
Synergic – single-button operation with 256 predefinable welding tasks



Advantages

Easy access to the coolant tank

Exterior opening for tank filling plus level display

Controlled protection

Thermal cut-out for water pump

Extra-large 12 litre tank

Trouble-free commissioning even with long tube packages and safe operation at high temperatures and during extended duty cycles

4 lifting lugs as standard

100% mobile for transportation in production halls and shipyards with restricted access

Mobility for any location

Large wheels for easy running – even on very uneven surfaces. Same gauge on front and rear wheels facilitates transport

Multi-functional, ergonomic handle system

Effortless running, practical holder for hose packages, impact protection

Tetrix, mobile

- Exceptional MMA welding
- Professional and profitable: choice of 4 self-explanatory controls which are systematically oriented to their respective practical applications – can also be exchanged
- Extended duty cycle and top performance – up to 550 A welding current

Tetrix 351

Controls → 116
Options/accessories → 129
Technical data → 134

- Mobile, can be lifted by crane and moved by fork lift
- More effective welding with activArc technology
- Efficient cooling system with centrifugal pump and large 12 l tank. Pressure monitor, pump and temperature-controlled fan.

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 25
Setting range for welding current	A	5 - 350
Duty cycle 40 °C		350 A / 60 %
Duty cycle 40 °C		300 A / 100 %
Dimensions L x W x H	mm	1100 x 455 x 1000
Weight	kg	117

Tetrix 451

Controls → 116
Options/accessories → 129
Technical data → 134

- Mobile, can be lifted by crane and moved by fork lift
- More effective welding with activArc technology
- Efficient cooling system with centrifugal pump and large 12 l tank. Pressure monitor, pump and temperature-controlled fan.

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 35
Setting range for welding current	A	5 - 450
Duty cycle 40 °C		450 A / 80 %
Duty cycle 40 °C		420 A / 100 %
Dimensions L x W x H	mm	1100 x 455 x 1000
Weight	kg	120

Spotmatic – saves 50% of tacking time
The arc is ignited fully automatically without actuating the torch trigger by simply touching the tip of the electrode with the workpiece. Hundreds of reproducible tacks can be made without tungsten inclusions.

Perfect welding tacks with the spotArc torch
Universally applicable thanks to the possibility of connecting two panels with the same or different thicknesses – clean seam finish for visible connections

Tetrix 551

Controls → 116
Options/accessories → 129
Technical data → 135

- Mobile, can be lifted by crane and moved by fork lift
- More effective welding with activArc technology
- Efficient cooling system with centrifugal pump and large 12 l tank. Pressure monitor, pump and temperature-controlled fan.

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 35
Setting range for welding current	A	5 - 550
Duty cycle 40 °C		550 A / 60 %
Duty cycle 40 °C		420 A / 100 %
Dimensions L x W x H	mm	1100 x 455 x 1000
Weight	kg	128.5

Automatic pulses
When tacking and spot welding workpieces, automated pulses ensure current-dependent pulse frequency and balance which enhance air gap bridging.

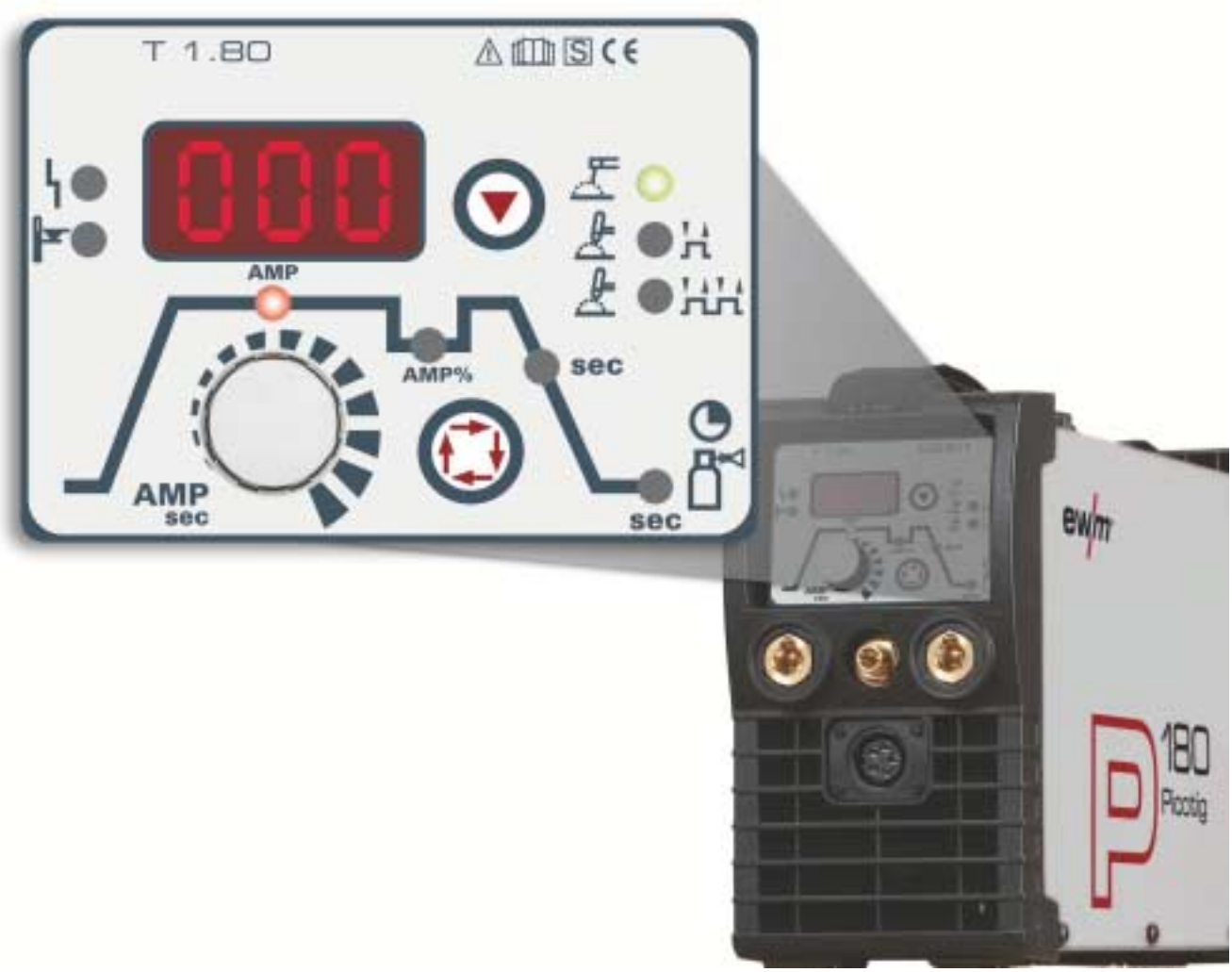
Key switch – standard or optional
Secures parameter settings and locks the operating surface

Machine control overview

Controls	Picotig	Smart	Comfort	Classic	Synergic
Machines					
Picotig 180	•	–	–	–	–
Picotig 180	•	–	–	–	–
Tetrix 180	–	•	•	–	–
Tetrix 230	–	•	•	–	–
Tetrix 270	–	•	•	–	–
Tetrix 300	–	•	•	•	–
Tetrix 351	–	•	•	•	•
Tetrix 451	–	•	•	•	•
Tetrix 551	–	•	•	•	•

Control details

Picotig



Very simple to operate – just switch on and start welding

- Direct access to all important TIG parameters
- One-dial operation with clear, self-explanatory operating surface

Control details

Smart

Very simple to operate – just switch on and start welding

- Direct access to all important TIG parameters
- One-dial operation with clear, self-explanatory operating surface
- Reproducible setting of all welding parameters with digital display

Comfort

Proven convenience – all welding parameters can be adjusted

- One-dial operation with clear, self-explanatory operating surface
- User support for setting the welding parameters
- 8 JOBs (welding tasks) which can also be called up via the torch
- Reproducible setting of all welding parameters with digital display
- Connection capability for remote control
- Also ideal for mechanised and automatic applications

Control details

Classic

Classic operation

- Self-explanatory operating surface
- Direct access to all welding parameters via rotary dials
- Reproducible setting of all welding parameters with digital display

Synergic

Very easy and extremely convenient to use thanks to EWM TIG Synergic operation

- JOBs (welding tasks) can be selected via material, seam, welding current/panel thickness. The digital system automatically finds the best welding parameters.
- One-dial operation with clear, self-explanatory operating surface
- 256 JOBs (welding tasks) which can also be called up via the torch
- Reproducible setting of all welding parameters with digital displays
- Connection capability for torch and remote control, and for PC with welding data and documentation software
- Also ideal for mechanised and automatic applications

Control functions

Control	Picotig	Smart	Comfort	Classic	Synergic
Functions					
General					
TIG	•	•	•	•	•
MMA	•	•	•	•	•
EWM-activArc	–	•	•	•	•
EWM-spotArc	–	•	•	•	•
Non-latched	•	•	•	•	•
Latched	•	•	•	•	•
Tapping mode	–	•	•	•	•
Spots	–	•	•	•	•
Automated pulses	–	•	•	–	•
Pulses	–	–	•	–	•
kHz pulses	–	–	•	–	•
HF	•	•	•	•	•
Liftarc	•	•	•	•	•
Gas pre-flow time	•	•	•	•	•
Ignition current	•	•	•	•	•
Upslope time	•	•	•	•	•
Main current	•	•	•	•	•
Secondary current	•	•	•	•	•
Downslope time	•	•	•	•	•
End current	•	•	•	•	•
Hold function	•	•	•	•	•
Pulse time	–	•	•	•	•
Pause time	–	•	•	•	•
Gas test, currentless	–	–	–	–	•
Rinse tube package	–	–	–	–	•
Displays					
Welding current	•	•	•	•	•
Welding parameters	•	•	•	•	•
Error code	•	•	•	•	•
Welding voltage	–	–	•	•	•
JOB number	–	–	•	–	•
Metal sheet thickness	–	–	–	–	•
Program number	–	–	–	–	•
Collective interference	•	•	•	•	•
Excess temperature	•	•	•	•	•
Water deficiency	•	•	•	•	•
MMA					
Hotstart	•	•	•	•	•
Arcforce	•	•	•	•	•
Antistick	•	•	•	•	•

Options/accessories

Power sources	Item no.
Picotig 180 TGD 5P TIG DC welding machine, portable, gas, decentral, 5-pole connection socket	090-002046-00502
Picotig 180 MV TIG DC welding machine, portable, gas, decentral, 5-pole connection socket	090-002047-00502
Tetrix 180 Comfort 8P TGD TIG DC welding machine, portable, gas, decentral, 8-pole connection socket	090-000097-00504
Tetrix 230 Comfort 8P TGD TIG DC welding machine, portable, gas, decentral, 8-pole connection socket	090-000157-00504
Tetrix 270 Comfort 8P TIG DC welding machine, portable, gas, decentral, 8-pole connection socket	090-000146-00504
Tetrix 300 Comfort TGD TIG DC welding machine, portable, gas, decentral	090-000098-00502
Tetrix 351 Comfort FWD TIG DC welding machine, mobile, water, decentral	090-000117-00502
Tetrix 451 Comfort FWD TIG DC welding machine, mobile, water, decentral	090-000102-00502
Tetrix 551 Comfort FWD TIG DC welding machine, mobile, water, decentral	090-000092-00502

Set		Item no.
SET Picotig 180 5P TIG TIG set: PICOTIG 180 and accessories in a case • Contents: power source, aluminium- framed hard topped case, TIG torch TIG 150 4m, workpiece lead, gas hose, pressure reducer		091-002046-00502

Wire feed unit		Item no.
Tetrix Drive 4L TIG wire-feed unit, cooling water conduit • A demodular Tetrix power source with connections for wire feed units is required for operation! • Pin reel type D300 • Dimensions: L x W x H in mm, 690 x 300 x 410. Weight 12 kg		090-000094-00502

Torch		Item no.
TIG 150 GD 5P 2T TIG welding torch, gas-cooled • Double push-button		094-512291-00600
TIG 150 GD 8P 2T UD TIG function torch, up/down, gas-cooled • Setting the welding current • Double push-button • Option „ON 8-pole connection socket“ is required for portable machines up to 270 A		094-512291-00200
TIG 150 GD 12P RETOX HFL TIG function torch, Retox, gas-cooled • Setting and displaying programs, welding current and other welding parameters • Option „ON 12-pole connection socket“ is required • Highly flexible hose package with 1 m leather protector		094-512291-10700
TIG 200 GD 8P 2T UD TIG function torch, up/down, gas-cooled • Setting the welding current • Double push-button • Option „ON 8-pole connection socket“ is required for portable machines up to 270 A		094-510981-00200

Options/accessories

Torch	Item no.
TIG 200 GD 12P RETOX HFL TIG function torch, Retox, gas-cooled • Setting and displaying programs, welding current and other welding parameters • Option „ON 12-pole connection socket" is required • Highly flexible hose package with 1 m leather protector	094-510981-10700
TIG 260 WD 5P 2T TIG welding torch, water-cooled • Double push-button	094-510990-00600
TIG 260 WD 12P RETOX HFL TIG function torch, Retox, water-cooled • Setting and displaying programs, welding current and other welding parameters • Option „ON 12-pole connection socket" is required • Highly flexible hose package with 1 m leather protector	094-510990-10700
TIG 450 WD 8P 2T UD TIG function torch, up/down, water-cooled • Setting the welding current • Double push-button • Option „ON 8-pole connection socket" is required for portable machines up to 270 A	094-510993-00200
TIG 450 WD 12P RETOX HFL TIG function torch, Retox, water-cooled • Setting and displaying programs, welding current and other welding parameters • Option „ON 12-pole connection socket" is required • Highly flexible hose package with 1 m leather protector	094-510993-10700
TIG 450 WD 12P RETOX HFL TIG function torch, Retox, water-cooled • Setting and displaying programs, welding current and other welding parameters • Option „ON 12-pole connection socket" is required • Highly flexible hose package with 1 m leather protector	094-510993-10708
TIG 450SC WD 8P 2T UD HFL TIG function torch, up/down, water-cooled • Setting the welding current • Double push-button • Option „ON 8-pole connection socket" is required for portable machines up to 270 A • Highly flexible hose package with 1 m leather protector	094-511016-10200
TIG 450SC WD 12P RETOX HFL TIG function torch, Retox, water-cooled • Setting and displaying programs, welding current and other welding parameters • Option „ON 12-pole connection socket" is required • Highly flexible hose package with 1 m leather protector	094-511016-10700

Remote control	Item no.
RT1 19POL Remote control, current • Infinitely adjustable welding current (0% to 100%) depending on the main current preselected at the welding machine. • Operating point setting directly at the site of welding • Robust metal casing with rubber feet, stirrup and holding magnet	090-008097-00000
RTF1 19POL 5M Foot-operated remote control, current, with connection cable • Infinitely adjustable welding current (0% to 100%) depending on the main current preselected at the welding machine. • Start/stop welding operation • Operating point setting directly at the site of welding	094-006680-00000

Remote control		Item no.
RTP1 19POL Remote control, spots/pulses • TIG/MMA. • Infinitely adjustable welding current (0% to 100%) depending on the main current preselected at the welding machine. • Pulse/spot/normal • Pulse, spot and pause times are infinitely adjustable. • Operating point setting directly at the site of welding • Robust metal casing with rubber feet, stirrup and holding magnet		090-008098-00000
RTP2 19POL Remote control, spots/pulses • TIG/MMA. • Infinitely adjustable welding current (0% to 100%) depending on the main current preselected at the welding machine. • Pulse/spot/normal • Frequency and spot times infinitely adjustable. • Coarse adjustment of the cycle frequency. • Pulse/pause ratio (balance) adjustable from 10% to 90%. • Operating point setting directly at the site of welding • Robust metal casing with rubber feet, stirrup and holding magnet		090-008099-00000
RTP3 spotArc 19POL Remote control, spotArc, spots/pulses • TIG/MMA. • Infinitely adjustable welding current (0% to 100%) depending on the main current preselected at the welding machine. • Pulse/spotArc spots/normal • Frequency and spot times infinitely adjustable. • Coarse adjustment of the cycle frequency. • Pulse/pause ratio (balance) adjustable from 10% to 90%. • Operating point setting directly at the site of welding • Robust metal casing with rubber feet, stirrup and holding magnet		090-008211-00000
RA5 19POL 5M Remote control e.g. connection cable		092-001470-00005

Cooling module		Item no.
COOL35 U31 Ambient air cooling module • Modular design, tool-free assembly • Cooling capacity 1 l/min: 800 W, max. flow rate: 5 l/min, max. output pressure: 3.5 bar, 4.5 l tank capacity • Dimensions L x W x H in mm, 600 x 270 x 225 Weight 15 kg		090-008235-00502
COOL40 U31 Cooling module • Modular design, tool-free assembly • Cooling capacity 1 l/min: 900 W, max. flow rate: 5 l/min, max. output pressure: 3.5 bar, 4.5 l tank capacity • xBxHDimensions L x W x H in mm, 600 x 210 x 340 Weight 14 kg		090-008593-00502

Transport vehicle		Item no.
Trolly 35-2 Transport vehicle • Solid, stable design • For transporting a power source, a cooling module and a gas cylinder • Dimensions L x W x H in mm, 980 x 505 x 990. Weight 34 kg		090-008198-00000

Options/accessories

Transport vehicle		Item no.
Trolly 38-2 E Transport vehicle • Solid, stable design • For transporting a power source, a cooling module and a gas cylinder • Dimensions L x W x H in mm, 818 x 533 x 1233 Weight 35 kg		090-008270-00000

Options for retrofitting		Item no.
ON 12POL RETOX TIG 300/351/451/551 Connection socket, 12-pole, for RETOX torch		092-001807-00000
ON 7POL 7-pole connection socket for accessory components, and/or as digital interface		092-001826-00000
ON 8POL 03 TETRIX 180 8-pole torch connection socket for TETRIX 180 from serial no.196718 onwards		092-002465-00000
ON 12POL RETOX TIG 180 / 270 12-pole torch connection socket		092-002466-00000
ON 12POL RETOX TIG 230 12-pole torch connection socket		092-002519-00000
ON 19POL Tetrix 300/351 19-pole connection socket for accessory components and/or as analogue interface for mechanised welding		092-001827-00000
ON 19POL 351/451/551 19-pole connection socket for accessory components and/or as analogue interface for mechanised welding		092-001951-00000
ON FILTER Pico/Picotig 180 Dirt filter for air inlet		092-002546-00000
ON FILTER MV/TETRIX 180 Dirt filter for air inlet		092-002547-00000

Options for retrofitting		Item no.
ON FILTER TIG 40 Dirt filter for air inlet		092-002551-00000
ON FILTER T/P Dirt filter for air inlet • Reliably protects the machine from impurities under tough working conditions.		092-002092-00000
ON KEY SWITCH Key switch for locking the machine control		092-001828-00000
ON FSB WHEELS W/T/P Locking brake for machine wheels • Front wheels with locking brake allow the machine to be safely parked even on uneven ground.		092-002110-00000
ON HOSE/FR MOUNT Mount for tubes and remote control for machines without star handle • Keeps the machine in a tidy condition: tubes and cables of e.g. welding torches or remote controls can be coiled in an orderly way on the machine. Also helps to fix remote controls in place		092-002116-00000
ON HOLDER GAS BOTTLE <50L Holding plate for gas cylinders smaller than 50 litres • Transport even small gas cylinders safely on the machine		092-002151-00000
ON SHOCK PROTECT Ram protection • Protects the machine from scratches and dents. Highly recommended if the machine is transported frequently		092-002154-00000
ON TOOL BOX Toolbox between gas cylinder and rear casing panel • Tools and torch replaceable parts always to hand. • Dimensions L x W x H in mm: 240 x 100 x 80		092-002138-00000

Factory-fit options		Item no.
OW MULTIVOLT 351/451/551 Multi-voltage (230V/400V/480V) – factory fitting (no retrofitting)		092-002542-00001
OW REINFORCED PUMP T/P Heavy-duty coolant pump (only ex works) • Recommended for long hose packages. Increases the flow rate to up to 20 l/min and the pressure to max. 4.5 bar		092-002118-00001

Options/accessories

Mains plug		Item no.
ADAP SCHUKO/16ACEE Earth contact coupling/CEE16A plug		092-000812-00000
5POLE/CEE/16A/M Mains plug		094-000712-00000
5POLE/CEE/32A/M Mains plug		094-000207-00000

Coolant		Item no.
KF 23E-10, -10° Coolant (-10 °C), 9.3 l		094-000530-00000
KF 23E-200, -10° Coolant (-10 °C), 200 l		094-000530-00001
KF 37E-10, -20° Coolant (-20 °C), 9.3 l		094-006256-00000

General		Item no.
DM1 32L/MIN Manometer pressure reducer • Single-stage pressure reducer for use with standard MIG/MAG welding equipment		094-000009-00000

Machine-dependent

Machines	Page	Picotig 180	Picotig 180	Tetrix 180	Tetrix 230	Tetrix 270	Tetrix 300
Set							
SET Picotig 180 5P TIG	→ 123	•	–	–	–	–	–
Wire feed unit							
Tetrix Drive 4L	→ 123	–	–	–	–	–	–
Torch							
TIG 150 GD 5P 2T	→ 123	•	•	–	–	–	–
TIG 150 GD 8P 2T UD	→ 123	–	–	•	–	–	–
TIG 150 GD 12P RETOX HFL	→ 123	–	–	•	–	–	–
TIG 200 GD 12P RETOX HFL	→ 124	–	–	–	•	•	•
TIG 450 WD 12P RETOX HFL	→ 124	–	–	–	–	–	–
TIG 200 GD 8P 2T UD	→ 123	–	–	–	•	•	•
TIG 260 WD 5P 2T	→ 124	–	–	–	•	–	–
TIG 260 WD 12P RETOX HFL	→ 124	–	–	–	–	•	•
TIG 450 WD 8P 2T UD	→ 124	–	–	–	–	–	–
TIG 450 WD 12P RETOX HFL	→ 124	–	–	–	–	–	–
TIG 450SC WD 8P 2T UD HFL	→ 124	–	–	–	–	–	–
Remote control							
RT1 19POL	→ 124	•	•	•	•	•	•
RTF1 19POL 5M	→ 124	•	•	•	•	•	•
RA5 19POL 5M	→ 20	•	•	•	•	•	•
RTP1 19POL	→ 125	–	–	•	•	•	•
RTP2 19POL	→ 125	–	–	•	•	•	•
RTP3 spotArc 19POL	→ 125	–	–	•	•	•	•
Cooling module							
COOL40 U31	→ 125	–	–	–	•	•	–
COOL35 U31	→ 125	–	–	–	–	–	•
Transport vehicle							
Trolly 35-2	→ 125	–	–	–	•	•	•
Trolly 38-2 E	→ 126	–	–	–	•	•	–
Options for retrofitting							
ON FILTER Pico/Picotig 180	→ 126	•	–	–	–	–	–
ON FILTER MV/TETRIX 180	→ 126	–	•	•	–	–	–
ON KEY SWITCH	→ 127	–	–	–	–	–	–
ON 12POL RETOX TIG 180 / 270	→ 126	–	–	•	–	•	–
ON 8POL 03 TETRIX 180	→ 126	–	–	•	–	–	–
ON 12POL RETOX TIG 230	→ 126	–	–	–	•	–	–
ON FILTER TIG 40	→ 127	–	–	–	•	•	–
ON 12POL RETOX TIG 300/351/451/551	→ 126	–	–	–	–	–	•
ON 19POL Tetrix 300/351	→ 126	–	–	–	–	–	•
ON FILTER T/P	→ 21	–	–	–	–	–	–
ON FSB WHEELS W/T/P	→ 21	–	–	–	–	–	–
ON HOLDER GAS BOTTLE <50L	→ 22	–	–	–	–	–	–
ON HOSE/FR MOUNT	→ 21	–	–	–	–	–	–
ON SHOCK PROTECT	→ 22	–	–	–	–	–	–
ON TOOL BOX	→ 22	–	–	–	–	–	–
ON 19POL 351/451/551	→ 126	–	–	–	–	–	–
ON 7POL	→ 126	–	–	–	–	–	–
Factory-fit options							
OW MULTIVOLT 351/451/551	→ 53	–	–	–	–	–	–
OW REINFORCED PUMP T/P	→ 22	–	–	–	–	–	–
Mains plug							
ADAP SCHUKO/16ACEE	→ 53	•	•	•	•	–	–
5POLE/CEE/16A/M	→ 53	–	–	–	–	•	•
5POLE/CEE/32A/M	→ 22	–	–	–	–	–	–
Coolant							
KF 23E-10, -10°	→ 22	–	–	–	•	•	•
KF 37E-10, -20°	→ 23	–	–	–	•	•	•
KF 23E-200, -10°	→ 22	–	–	–	–	•	•
General							
DM1 32L/MIN	→ 23	•	•	•	•	•	•

Machine-dependent

Machines	Page	Tetrix 351	Tetrix 451	Tetrix 551
Set				
SET Picotig 180 5P TIG	→ 123	–	–	–
Wire feed unit				
Tetrix Drive 4L	→ 123	•	•	•
Torch				
TIG 150 GD 5P 2T	→ 123	–	–	–
TIG 150 GD 8P 2T UD	→ 123	–	–	–
TIG 150 GD 12P RETOX HFL	→ 123	–	–	–
TIG 200 GD 12P RETOX HFL	→ 124	–	–	–
TIG 450 WD 12P RETOX HFL	→ 124	•	•	•
TIG 200 GD 8P 2T UD	→ 123	–	–	–
TIG 260 WD 5P 2T	→ 124	–	–	–
TIG 260 WD 12P RETOX HFL	→ 124	–	–	–
TIG 450 WD 8P 2T UD	→ 124	•	•	–
TIG 450 WD 12P RETOX HFL	→ 124	•	•	•
TIG 450SC WD 8P 2T UD HFL	→ 124	–	–	•
Remote control				
RT1 19POL	→ 124	•	•	•
RTF1 19POL 5M	→ 124	•	•	•
RA5 19POL 5M	→ 20	•	•	•
RTP1 19POL	→ 125	•	•	•
RTP2 19POL	→ 125	•	•	•
RTP3 spotArc 19POL	→ 125	•	•	•
Cooling module				
COOL40 U31	→ 125	–	–	–
COOL35 U31	→ 125	–	–	–
Transport vehicle				
Trolly 35-2	→ 125	–	–	–
Trolly 38-2 E	→ 126	–	–	–
Options for retrofitting				
ON FILTER Pico/Picotig 180	→ 126	–	–	–
ON FILTER MV/TETRIX 180	→ 126	–	–	–
ON KEY SWITCH	→ 127	•	•	•
ON 12POL RETOX TIG 180 / 270	→ 126	–	–	–
ON 8POL 03 TETRIX 180	→ 126	–	–	–
ON 12POL RETOX TIG 230	→ 126	–	–	–
ON FILTER TIG 40	→ 127	–	–	–
ON 12POL RETOX TIG 300/351/451/551	→ 126	•	•	•
ON 19POL Tetrix 300/351	→ 126	–	–	–
ON FILTER T/P	→ 21	•	•	•
ON FSB WHEELS W/T/P	→ 21	•	•	•
ON HOLDER GAS BOTTLE <50L	→ 22	•	•	•
ON HOSE/FR MOUNT	→ 21	•	•	•
ON SHOCK PROTECT	→ 22	•	•	•
ON TOOL BOX	→ 22	•	•	•
ON 19POL 351/451/551	→ 126	•	•	•
ON 7POL	→ 126	•	•	•
Factory-fit options				
OW MULTIVOLT 351/451/551	→ 53	•	•	•
OW REINFORCED PUMP T/P	→ 22	•	•	•
Mains plug				
ADAP SCHUKO/16ACEE	→ 53	–	–	–
5POLE/CEE/16A/M	→ 53	–	–	–
5POLE/CEE/32A/M	→ 22	•	•	•
Coolant				
KF 23E-10, -10°	→ 22	•	•	•
KF 37E-10, -20°	→ 23	–	–	–
KF 23E-200, -10°	→ 22	•	•	•
General				
DM1 32L/MIN	→ 23	•	•	•

Control-dependent

Controls	Page	Comfort	Synergic
Torch			
TIG 150 GD 12P RETOX HFL	→ 123	•	•
TIG 450SC WD 12P RETOX HFL	→ 124	•	•
TIG 200 GD 12P RETOX HFL	→ 124	•	•
TIG 450 WD 12P RETOX HFL	→ 124	•	•
Options for retrofitting			
ON KEY SWITCH	→ 127	•	•

Technical data

		Picotig 180				Picotig 180							
		TIG		MMA		TIG		MMA		TIG		MMA	
Mains voltage	V	230		230		230		230		115		115	
Setting range for welding current	A	5 - 180		5 - 150		5 - 180		5 - 150		5 - 150		5 - 110	
Duty cycle at ambient temperature	°C	25	40	25	40	25	40	25	40	25	40	25	40
35 %	A	180	180	–	150	180	180	–	150	150	150	–	110
50 %	A	–	–	150	–	–	–	150	–	–	–	–	–
60 %	A	150	150	–	120	150	150	–	120	120	120	110	90
100 %	A	120	120	120	100	120	120	120	100	100	100	80	80
Mains frequency	Hz	50 / 60				50 / 60							
Mains fuses (slow-blow)	A	1 x 16				1 x 16				1 x 25			
Mains voltage (tolerances)		1 x 230 V (-40 % - +15 %)				1 x 230 V (-20 % - +15 %)				1 x 115 V (-15 % - +15 %)			
Max. connected load	kVA	4.4		5.5		4.4		5.5		3.4		3.8	
Recommended generator power	kVA	7.5				7.5				5.2			
Dimensions, machine, L x W x H	mm	475 x 135 x 250				475 x 180 x 295							
Weight, machine	kg	6.9				8.9							
Protection classification		IP 23				IP 23							
Insulation class		H				H							
Torch connection		decentral				decentral							
Standards		IEC 60 974-1 / IEC 60 974-3 / IEC 60 974-10 / CE / S-Safety sign				IEC 60 974-1 / IEC 60 974-3 / IEC 60 974-10 / CE / S-Safety sign							

		Tetrix 180				Tetrix 230				Tetrix 270	
		TIG		MMA		TIG		MMA		TIG	
Mains voltage	V	230		230		230		230		400	
Setting range for welding current	A	5 - 180		10 - 150		3 - 230		5 - 180		5 - 270	
Duty cycle at ambient temperature	°C	25	40	25	40	25	40	25	40	25	40
35 %		180 A	180 A	–	150 A	–	230 A	–	180 %	–	–
40 %	A	–	–	–	–	230	–	–	–	–	–
45 %	A	–	–	–	–	–	–	180	–	–	270
50 %	A	–	–	150	–	–	–	–	–	–	–
60 %	A	150	150	–	120	180	160	160	140	–	–
65 %	A	–	–	–	–	–	–	–	–	270	–
100 %	A	120	120	120	100	150	130	140	110	220	180
Mains frequency	Hz	50 / 60				50 / 60				50 / 60	
Mains fuses (slow-blow)	A	1 x 16				1 x 16				3 x 16	
Mains voltage (tolerances)		1 x 230 V (-40 % - +15 %)				1 x 230 V (-40 % - +15 %)				3 x 400 V (-25 % - +20 %)	
Max. connected load	kVA	4.4		5.5		5.2		5.8		7.1	
Recommended generator power	kVA	7.5				7.8				14.5	
Dimensions, machine, L x W x H	mm	475 x 180 x 295				600 x 205 x 415				600 x 205 x 415	
Weight, machine	kg	8.9				16.5				20	
Protection classification		IP 23				IP 23				IP 23	
Insulation class		H				F				H	
Torch connection		decentral				decentral				decentral	
Standards		IEC 60 974-1 / IEC 60 974-3 / IEC 60 974-10 / CE / S-Safety sign				IEC 60 974-1 / IEC 60 974-3 / IEC 60 974-10 / CE / S-Safety sign				IEC 60 974-1 / IEC 60 974-3 / IEC 60 974-10 / CE / S-Safety sign	

Technical data

		Tetrix 300			Tetrix 351			Tetrix 451			
		TIG		MMA	TIG		MMA	MMA		TIG	
Mains voltage	V	400		400	–		–	–		–	
Setting range for welding current	A	5 - 300		5 - 300	5 - 350		5 - 350	5 - 450		5 - 450	
Duty cycle at ambient temperature	°C	25	40	–	25	40	–	25	40	25	40
60 %	A	–	300	–	–	350	–	–	–	–	–
80 %	A	300	–	–	–	–	–	–	450	–	450
100 %	A	270	250	–	350	300	–	450	420	450	420
Mains frequency	Hz	50 / 60			50 / 60			50 / 60			
Mains fuses (slow-blow)	A	3 x 16			3 x 25			3 x 35			
Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)			3 x 400 V (-25 % - +20 %)			3 x 400 V (-25 % - +20 %)			
Max. connected load	kVA	8.3		12	10.6		15	21.6		15.9	
Recommended generator power	kVA	16.4			20.5			29.1			
Dimensions, machine, L x W x H	mm	590 x 230 x 380			1100 x 455 x 1000			1100 x 455 x 1000			
Weight, machine	kg	29			117			120			
Protection classification		IP 23			IP 23			IP 23			
Insulation class		H			H			H			
Torch connection		decentral			decentral			decentral			
Cooling output	W	–			1500			1500			
Tank capacity	l	–			12			12			
Flow rate	l/min	–			5			5			
Max. output pressure	bar	–			3.5			3.5			
Standards		IEC 60 974-1 / IEC 60 974-3 / IEC 60 974-10 / CE / S-Safety sign			IEC 60 974-1 / IEC 60 974-3 / IEC 60 974-10 / CE / S-Safety sign			IEC 60 974-1 / IEC 60 974-3 / IEC 60 974-10 / CE / S-Safety sign			

		Tetrix 551			
		TIG		MMA	
Setting range for welding current	A	5 - 550		5 - 550	
Duty cycle at ambient temperature	°C	25	40	25	40
60 %	A	550	550	550	550
80 %	A	520	–	520	–
100 %	A	450	420	450	420
Mains frequency	Hz	50 / 60			
Mains fuses (slow-blow)	A	3 x 35			
Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)			
Max. connected load	kVA	22.2		29.2	
Recommended generator power	kVA	39.4			
Dimensions, machine, L x W x H	mm	1100 x 455 x 1000			
Weight, machine	kg	128.5			
Protection classification		IP 23			
Insulation class		H			
Torch connection		decentral			
Cooling output	W	1500			
Tank capacity	l	12			
Flow rate	l/min	5			
Max. output pressure	bar	3.5			
Standards		IEC 60 974-1 / IEC 60 974-3 / IEC 60 974-10 / CE / S-Safety sign			

TIG AC/DC welding machines

The AC specialists with convenient handling

TIG welding with direct or alternating current – ranging from lightweight and portable units for assembly work to the 550 ampere professional TIG unit with exceptionally long duty cycle for production.

Every EWM AC/DC machine is fitted with power-saving, environmentally friendly inverter technology. These machines perform flawless joining of unalloyed, low-allow and high-alloy steels as standard. They easily connect lightweight metals and their alloys and can therefore be used for every application.

Extensive AC functions and setting options of the intuitive control concepts make welders‘ work considerably easier. This means end-to-end reliable EWM quality for professionals!

Overview

TIG AC/DC welding machines portable

Design	Max. welding current	Product name	Cooling			Page
	A		gas cooled	Opti-onal cooling module	water cooled	
--	190	Picotig 190 AC/DC	•	–	–	140
Modular	230	Tetrix 230 AC/DC	•	•	–	140
	300	Tetrix 300 AC/DC	•	•	–	141

TIG AC/DC welding machines mobile

Design	Max. welding current	Product name	Cooling			Page
	A		gas cooled	Opti-onal cooling module	water cooled	
Demodular	350	Tetrix 351 AC/DC	–	–	•	144
	450	Tetrix 451 AC/DC	–	–	•	144
	550	Tetrix 551 AC/DC	–	–	•	145

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The smaller TIG AC/DC power packs

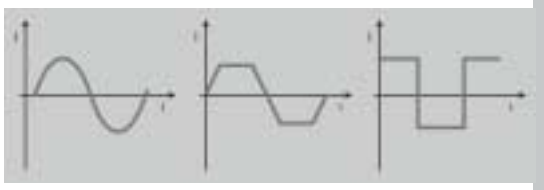
Construction site, assembly, workshop or production site – the right machine for every location. Can be expanded at any time with cooling module and transport vehicle – no need for additional tools or specialist personnel.

Picotig

Highlights

Easy to use on site

The Retox torch allows all programs, operating modes and the up/down function to be called up at the touch of a button.



Alternating current types for every need

Different types of alternating current allow welding properties to be individually selected: sinusoid – for agreeably low-noise jointing; trapezoid – the all-round setting for almost every application; rectangular – for particularly difficult applications

AC special for thin to thick

Simple and reliable: 1 mm to 10 mm! Reliable jointing of aluminium panels with very different thicknesses: good fusion penetration in the thicker panel, no melting through the thin panel.

Reliable ignition

AC: Reliable ignition, stable arc because the shape of the spherical cap can be very easily adjusted in line with the tungsten electrode diameter. This reduces electrode wear

DC: coordinated welding start parameters for ideal ignition conditions with every application.

Endless power with a 1-phase mains supply

230 amperes welding current from a 230 volt mains supply with shock-proof plug (16 ampere mains fuse)

100% suitable for construction sites

Perfect for large construction sites and very tough assembly work with mains supply leads up to 50 metres or connected directly to a generator. High tolerance to mains fluctuations ensures a perfect welding result.

Advantages

Combine effectively and as required

Easy combination of e.g. cooling module or transport vehicle – no specialist staff or tools required and no need to open the welding machine. Innovative and easy to expand to meet future needs.

Super-fast attachment of cooling module

The unique fastening system guarantees easy attachment and detachment. The catches are fully integrated in the casing so there is no protrusion and therefore no risk of injury.

Cooling unit with centrifugal pump

Optimal welding torch cooling

Well thought-out: Casing and cooling air conduction

Fan control plus blades minimise dirt in the machine

Modern, ergonomic casing

The front and rear sections of the machine are made of shock-resistant plastic with rounded corners and edges, so the welder and the machine have the best protection in any situation.

Operating elements

Particularly stable, clear and protected lay-out – allows especially easy handling

Picotig/Tetrix portable

- Exceptional MMA welding
- Different controls can be selected – can also be exchanged
- Lightweight inverters for mobile use

Picotig 190 AC/DC

Controls → 146
Options/accessories → 159
Technical data → 161

- Portable, shoulder strap

Mains voltage (tolerances)		1 x 230 V (-40 % - +15 %)
Mains fuses (slow-blow)	A	1 x 16
Setting range for welding current	A	5 - 190
Duty cycle 40 °C		190 A / 40 %
Duty cycle 40 °C		150 A / 60 %
Duty cycle 40 °C		120 A / 100 %
Dimensions L x W x H	mm	600 x 205 x 415
Weight	kg	16.5

Tetrix 230 AC/DC

Controls → 146
Options/accessories → 159
Technical data → 161

- Portable, shoulder strap
- More effective welding with activArc technology
- 3 m mains supply lead with 16 A shock-proof plug

Mains voltage (tolerances)		1 x 230 V (-40 % - +15 %)
Mains fuses (slow-blow)	A	1 x 16
Setting range for welding current	A	3 - 230
Duty cycle 40 °C		230 A / 35 %
Duty cycle 40 °C		160 A / 60 %
Duty cycle 40 °C		130 A / 100 %
Dimensions L x W x H	mm	600 x 205 x 415
Weight	kg	17

Accessories for professionals
Remote control with AC parameter setting option: frequency, balance and welding current

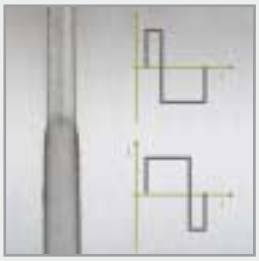
AC frequency
The fusion penetration and seam width are also controlled by AC frequencies between 50 and 200 Hertz
High frequency: narrow seam with deep fusion penetration
Low frequency: broad welding bead

Tetrix 300 AC/DC

Controls → 146
Options/accessories → 159
Technical data → 161

- More effective welding with activArc technology
- Pole reversal on machine control with no need to reconnect the connection cable
- 5 m mains supply lead

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 16
Setting range for welding current	A	5 - 300
Duty cycle 40 °C		300 A / 40 %
Duty cycle 40 °C		270 A / 60 %
Duty cycle 40 °C		210 A / 100 %
Dimensions L x W x H	mm	570 x 240 x 550
Weight	kg	36.5



AC balance

Adjustable balance of the alternating current proportion

Positive proportion: good cleaning of high-melting and semifluid oxides when welding aluminium.

Negative proportion: deep fusion penetration and long service life of the electrode

Additional dirt filter

For particularly tough sites of operation (option)

The AC/DC specialists – ideal for production

Uniquely high welding current – up to 550 A – for your AC production applications. The innovative inverter power unit of the fully digital machines guarantees continuous welding with a long duty cycle, particularly in multi-shift operation.

It also allows massive savings on energy costs thanks to its highly efficient performance.

Tetrix

Highlights

Easy to use on site

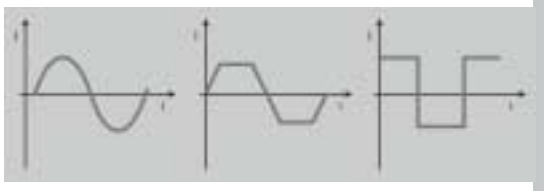
The Retox torch allows all programs, operating modes and the up/down function to be called up at the touch of a button.

TIG wire feed unit – the alternative to MIG/MAG welding

Better seam quality and totally spatter-free at a comparable welding speed. Also as a hot wire variation with an even higher deposition rate.

Two-sided, simultaneous AC welding

Two welders can weld both sides at the same time e.g. on aluminium workpieces with thick panels. Synchronisation is via the mains voltage or the master slave principle!

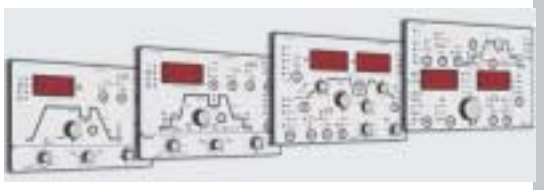


Alternating current types for every need

Different types of alternating current allow welding properties to be individually selected: sinusoid – for agreeably low-noise jointing; trapezoid – the all-round setting for almost every application; rectangular – for particularly difficult applications

Reliable ignition

AC: Reliable ignition, stable arc because the shape of the spherical cap can be very easily adjusted in line with the tungsten electrode diameter. This reduces DC electrode wear: coordinated welding start parameters for ideal ignition conditions with every application.

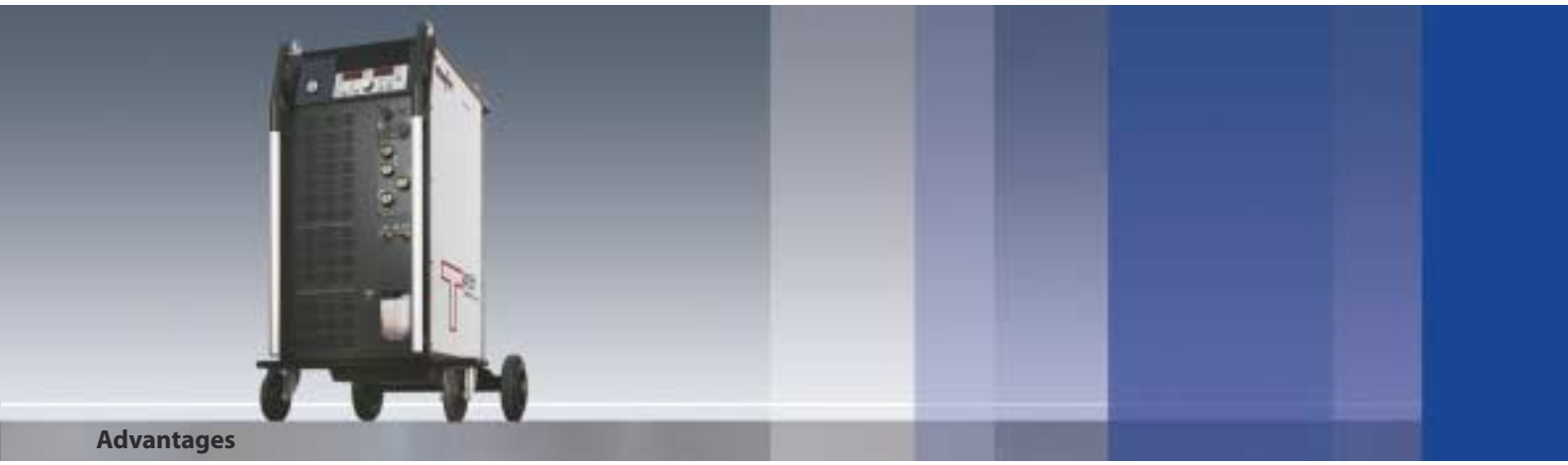


Self-explanatory operating concepts for every user

Classic – all parameters at a glance and directly accessible

Comfort – 8 predefinable welding tasks for frequently repeated welding operations

Synergic – single-button operation with 256 predefinable welding tasks



Advantages

Easy access to the coolant tank

Exterior opening for tank filling plus level display

Controlled protection

Thermal cut-out for water pump

Extra-large 12 litre tank

Trouble-free commissioning even with long tube packages and safe operation at high temperatures and during extended duty cycles

4 lifting lugs as standard

100% mobile for transportation in production halls and shipyards with restricted access

Mobility for any location

Large wheels for easy running – even on very uneven surfaces. Same gauge on front and rear wheels facilitates transport

Multi-functional, ergonomic handle system

Effortless running, practical holder for hose packages, impact protection

Tetrix, mobile

- Professional and profitable: choice of 4 intuitive, exchangeable controls which are systematically oriented to their respective practical applications
- Extended duty cycle and top performance – up to 550 A welding current

Tetrix 351 AC/DC

Controls → 146
Options/accessories → 159
Technical data → 162

- More effective welding with activArc technology

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 25
Setting range for welding current	A	5 - 350
Duty cycle 40 °C		350 A / 60 %
Duty cycle 40 °C		300 A / 100 %
Dimensions L x W x H	mm	1100 x 455 x 1000
Weight	kg	126.5

Tetrix 451 AC/DC

Controls → 146
Options/accessories → 159
Technical data → 162

- More effective welding with activArc technology

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 35
Setting range for welding current	A	5 - 450
Duty cycle 40 °C		450 A / 80 %
Duty cycle 40 °C		420 A / 100 %
Dimensions L x W x H	mm	1080 x 690 x 1195
Weight	kg	168.5

AC special for thin to thick
Simple and reliable: 1 mm to 10 mm! Reliable jointing of aluminium panels with very different thicknesses: good fusion penetration in the thicker panel, no melting through the thin panel

Accessories for professionals
Remote control with AC parameter setting option: frequency, balance and welding current

Tetrix 551 AC/DC

Controls → 146
Options/accessories → 159
Technical data → 162

- More effective welding with activArc technology

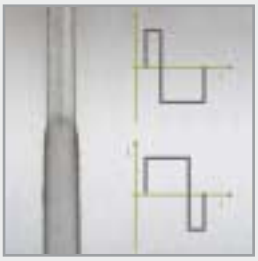
Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 35
Setting range for welding current	A	5 - 550
Duty cycle 40 °C		550 A / 60 %
Duty cycle 40 °C		420 A / 100 %
Dimensions L x W x H	mm	1080 x 690 x 1195
Weight	kg	176

AC frequency

The fusion penetration and seam width are also controlled by AC frequencies between 50 and 200 Hertz

High frequency: narrow seam with deep fusion penetration

Low frequency: broad welding bead



AC balance

Adjustable balance of the alternating current proportion

Positive proportion: good cleaning of high-melting and semifluid oxides when welding aluminium.

Negative proportion: deep fusion penetration and long service life of the electrode

Machine control overview

Controls	Picotig	Comfort	Smart	Classic	Synergic
Machines					
Picotig 190 AC/DC	•	–	–	–	–
Tetrix 230 AC/DC	–	•	•	–	–
Tetrix 300 AC/DC	–	•	•	•	•
Tetrix 351 AC/DC	–	•	•	•	•
Tetrix 451 AC/DC	–	•	•	•	•
Tetrix 551 AC/DC	–	•	•	•	•

Control details

Picotig

Very simple to operate – just switch on and start welding

- Direct access to all important TIG parameters
- One-dial operation with clear, self-explanatory operating surface
- Direct access to extensive AC functions

Control details

Comfort

Proven convenience – all welding parameters can be adjusted

- One-dial operation with clear, self-explanatory operating surface
- User support for setting the welding parameters
- 8 JOBs (welding tasks) which can also be called up via the torch
- Reproducible setting of all welding parameters with digital display
- Direct access to extensive AC functions
- Connection capability for remote control
- Also ideal for mechanised and automatic applications

Smart

Very simple to operate – just switch on and start welding

- Direct access to all important TIG parameters
- One-dial operation with clear, self-explanatory operating surface
- Reproducible setting of all welding parameters with digital display
- Direct access to extensive AC functions

Control details

Classic

Classic operation

- Self-explanatory operating surface
- Direct access to all welding parameters via rotary dials
- Reproducible setting of all welding parameters with digital display
- Direct access to extensive AC functions

Synergic

Very easy and extremely convenient to use thanks to EWM TIG Synergic operation

- JOBs (welding tasks) can be selected via material, seam, welding current/panel thickness. The digital system automatically finds the best welding parameters.
- One-dial operation with clear, self-explanatory operating surface
- 256 JOBs (welding tasks) which can also be called up via the torch
- Reproducible setting of all welding parameters with digital displays
- Connection capability for torch and remote control, and for PC with welding data and documentation software
- Direct access to extensive AC functions
- Also ideal for mechanised and automatic applications

Control functions

Control	Picotig	Comfort	Smart	Classic	Synergic
Functions					
General					
TIG	•	•	•	•	•
MMA	•	•	•	•	•
TIG AC	•	•	•	•	•
EWM-activArc	–	•	•	•	•
EWM-spotArc	–	•	•	•	•
Non-latched	•	•	•	•	•
Latched	•	•	•	•	•
Tapping mode	–	•	•	•	•
Spots	–	•	•	•	•
Synergic operation	–	–	–	–	•
Pulses	–	•	–	–	•
kHz pulses	–	•	–	–	•
Automated pulses	–	•	•	–	•
HF	•	•	•	•	•
Liftarc	•	•	•	•	•
Gas pre-flow time	•	•	•	•	•
Ignition current	•	•	•	•	•
Upslope time	•	•	•	•	•
Main current	•	•	•	•	•
Secondary current	•	•	•	•	•
Downslope time	•	•	•	•	•
End current	•	•	•	•	•
Pulse time	–	•	•	•	•
Pause time	–	•	•	•	•
Hold function	–	•	•	•	•
AC frequency mains-synchronous operation	–	•	•	•	•
AC frequency master/slave operation	–	–	–	–	•
Gas test, currentless	–	–	–	–	•
Rinse tube package	–	–	–	–	•
Displays					
Welding current	•	•	•	•	•
Welding parameters	•	•	•	•	•
Error code	•	•	•	•	•
Welding voltage	–	•	–	•	•
JOB number	–	•	–	–	•
Metal sheet thickness	–	–	–	–	•
Program number	–	–	–	–	•
Collective interference	•	•	•	•	•
Excess temperature	•	•	•	•	•
S-Safety sign	•	•	•	•	•
Water deficiency	–	•	•	•	•
MMA					
Hotstart	•	•	•	•	•
Arcforce	•	•	•	•	•
Antistick	•	•	•	•	•

Options/accessories

Power sources	Item no.
Picotig 190 AC/DC TGD 8P TIG DC welding machine, portable, gas, decentral, 8-pole connection socket	090-000151-00504
Tetrix 230 AC/DC Comfort 8P TIG AC/DC welding machine, portable, gas, decentral, 8-pole connection socket	090-000159-00504
Tetrix 300 AC/DC Synergic TGD TIG AC/DC welding machine, portable, gas, decentral	090-000121-00502
Tetrix 351 AC/DC Synergic FWD TIG AC/DC welding machine, mobile, water, decentral	090-000109-00502
Tetrix 451 AC/DC Synergic FWD TIG AC/DC welding machine, mobile, water, decentral	090-000112-00502
Tetrix 551 AC/DC Synergic FWD TIG AC/DC welding machine, mobile, water, decentral	090-000115-00502

Wire feed unit		Item no.
Tetrix Drive 4L TIG wire-feed unit, cooling water conduit • A demodular Tetrix power source with connections for wire feed units is required for operation! • Pin reel type D300 • Dimensions: L x W x H in mm, 690 x 300 x 410. Weight 12 kg		090-000094-00502

Torch		Item no.
TIG 150 GD 8P 2T UD TIG function torch, up/down, gas-cooled • Setting the welding current • Double push-button • Option „ON 8-pole connection socket“ is required for portable machines up to 270 A		094-512291-00200
TIG 150 GD 12P RETOX HFL TIG function torch, Retox, gas-cooled • Setting and displaying programs, welding current and other welding parameters • Option „ON 12-pole connection socket“ is required • Highly flexible hose package with 1 m leather protector		094-512291-10700
TIG 200 GD 8P 2T UD TIG function torch, up/down, gas-cooled • Setting the welding current • Double push-button • Option „ON 8-pole connection socket“ is required for portable machines up to 270 A		094-510981-00200
TIG 200 GD 12P RETOX HFL TIG function torch, Retox, gas-cooled • Setting and displaying programs, welding current and other welding parameters • Option „ON 12-pole connection socket“ is required • Highly flexible hose package with 1 m leather protector		094-510981-10700
TIG 260 WD 5P 2T TIG welding torch, water-cooled • Double push-button		094-510990-00600
TIG 260 WD 12P RETOX HFL TIG function torch, Retox, water-cooled • Setting and displaying programs, welding current and other welding parameters • Option „ON 12-pole connection socket“ is required • Highly flexible hose package with 1 m leather protector		094-510990-10700
TIG 450 WD 8P 2T UD TIG function torch, up/down, water-cooled • Setting the welding current • Double push-button • Option „ON 8-pole connection socket“ is required for portable machines up to 270 A		094-510993-00200

Options/accessories

Torch		Item no.
TIG 450 WD 12P RETOX HFL TIG function torch, Retox, water-cooled • Setting and displaying programs, welding current and other welding parameters • Option „ON 12-pole connection socket" is required • Highly flexible hose package with 1 m leather protector		094-510993-10700
TIG 450 WD 12P RETOX HFL TIG function torch, Retox, water-cooled • Setting and displaying programs, welding current and other welding parameters • Option „ON 12-pole connection socket" is required • Highly flexible hose package with 1 m leather protector		094-510993-10708
TIG 450SC WD 8P 2T UD HFL TIG function torch, up/down, water-cooled • Setting the welding current • Double push-button • Option „ON 8-pole connection socket" is required for portable machines up to 270 A • Highly flexible hose package with 1 m leather protector		094-511016-10200
TIG 450SC WD 12P RETOX HFL TIG function torch, Retox, water-cooled • Setting and displaying programs, welding current and other welding parameters • Option „ON 12-pole connection socket" is required • Highly flexible hose package with 1 m leather protector		094-511016-10700

Remote control		Item no.
RT1 19POL Remote control, current • Infinitely adjustable welding current (0% to 100%) depending on the main current preselected at the welding machine. • Operating point setting directly at the site of welding • Robust metal casing with rubber feet, stirrup and holding magnet		090-008097-00000
RTAC1 19POL Remote control, current/balance/frequency • AC balance (positive/negative half-wave ratio) can be set from +15% to -15%. • AC frequency of welding current infinitely adjustable. • Infinitely adjustable welding current (0% to 100%) depending on the main current preselected at the welding machine. • Operating point setting directly at the site of welding • Robust metal casing with rubber feet, stirrup and holding magnet		090-008197-00000
RTF1 19POL 5M Foot-operated remote control, current, with connection cable • Infinitely adjustable welding current (0% to 100%) depending on the main current preselected at the welding machine. • Start/stop welding operation • Operating point setting directly at the site of welding		094-006680-00000
RTP1 19POL Remote control, spots/pulses • TIG/MMA. • Infinitely adjustable welding current (0% to 100%) depending on the main current preselected at the welding machine. • Pulse/spot/normal • Pulse, spot and pause times are infinitely adjustable. • Operating point setting directly at the site of welding • Robust metal casing with rubber feet, stirrup and holding magnet		090-008098-00000

Remote control		Item no.
RTP2 19POL Remote control, spots/pulses • TIG/MMA. • Infinitely adjustable welding current (0% to 100%) depending on the main current preselected at the welding machine. • Pulse/spot/normal • Frequency and spot times infinitely adjustable. • Coarse adjustment of the cycle frequency. • Pulse/pause ratio (balance) adjustable from 10% to 90%. • Operating point setting directly at the site of welding • Robust metal casing with rubber feet, stirrup and holding magnet		090-008099-00000
RA5 19POL 5M Remote control e.g. connection cable		092-001470-00005

Cooling module		Item no.
COOL35 U31 Ambient air cooling module • Modular design, tool-free assembly • Cooling capacity 1 l/min: 800 W, max. flow rate: 5 l/min, max. output pressure: 3.5 bar, 4.5 l tank capacity • Dimensions L x W x H in mm, 600 x 270 x 225 Weight 15 kg		090-008235-00502
COOL40 U31 Cooling module • Modular design, tool-free assembly • Cooling capacity 1 l/min: 900 W, max. flow rate: 5 l/min, max. output pressure: 3.5 bar, 4.5 l tank capacity • xBxHDimensions L x W x H in mm, 600 x 210 x 340 Weight 14 kg		090-008593-00502

Transport vehicle		Item no.
Trolly 35-2 Transport vehicle • Solid, stable design • For transporting a power source, a cooling module and a gas cylinder • Dimensions L x W x H in mm, 980 x 505 x 990. Weight 34 kg		090-008198-00000
Trolly 38-2 E Transport vehicle • Solid, stable design • For transporting a power source, a cooling module and a gas cylinder • Dimensions L x W x H in mm, 818 x 533 x 1233 Weight 35 kg		090-008270-00000

Options for retrofitting		Item no.
ON 12POL RETOX TIG 300/351/451/551 Connection socket, 12-pole, for RETOX torch		092-001807-00000
ON 7POL 7-pole connection socket for accessory components, and/or as digital interface		092-001826-00000

Options/accessories

Options for retrofitting		Item no.
ON 12POL RETOX TIG 230 12-pole torch connection socket		092-002519-00000
ON 19POL Tetrix 300/351 19-pole connection socket for accessory components and/or as analogue interface for mechanised welding		092-001827-00000
ON 19POL 351/451/551 19-pole connection socket for accessory components and/or as analogue interface for mechanised welding		092-001951-00000
ON NETSYNCHRON 451/551 Phase sequence changeover set for synchronous welding		090-008207-00000
ON NETSYNCHRON 351 Phase sequence changeover set for synchronous welding		090-008212-00000
ON FILTER TIG 40 Dirt filter for air inlet		092-002551-00000
ON FILTER T/P Dirt filter for air inlet • Reliably protects the machine from impurities under tough working conditions.		092-002092-00000
ON FILTER Tetrix XL Dirt filter for air inlet • Reliably protects the machine from impurities under tough working conditions.		092-004999-00000
ON KEY SWITCH Key switch for locking the machine control		092-001828-00000
ON FSB WHEELS W/T/P Locking brake for machine wheels • Front wheels with locking brake allow the machine to be safely parked even on uneven ground.		092-002110-00000

Options for retrofitting		Item no.
ON HOSE/FR MOUNT Mount for tubes and remote control for machines without star handle • Keeps the machine in a tidy condition: tubes and cables of e.g. welding torches or remote controls can be coiled in an orderly way on the machine. Also helps to fix remote controls in place		092-002116-00000
ON HOLDER GAS BOTTLE <50L Holding plate for gas cylinders smaller than 50 litres • Transport even small gas cylinders safely on the machine		092-002151-00000
ON HOLDER GAS BOTTLE <50L TETRIX XL Holding plate for gas cylinders smaller than 50 litres • Transport even small gas cylinders safely on the machine		092-002345-00000
ON SHOCK PROTECT Ram protection • Protects the machine from scratches and dents. Highly recommended if the machine is transported frequently		092-002154-00000
ON TOOL BOX Toolbox between gas cylinder and rear casing panel • Tools and torch replaceable parts always to hand. • Dimensions L x W x H in mm: 240 x 100 x 80		092-002138-00000

Factory-fit options		Item no.
OW REINFORCED PUMP T/P Heavy-duty coolant pump (only ex works) • Recommended for long hose packages. Increases the flow rate to up to 20 l/min and the pressure to max. 4.5 bar		092-002118-00001
OW MULTIVOLT 351AC Multi-voltage (230V/400V/480V) – factory fitting (no retrofitting)		092-002541-00001
OW MULTIVOLT 351/451/551 Multi-voltage (230V/400V/480V) – factory fitting (no retrofitting)		092-002542-00001

Options/accessories

Mains plug		Item no.
ADAP SCHUKO/16ACEE Earth contact coupling/CEE16A plug		092-000812-00000
5POLE/CEE/16A/M Mains plug		094-000712-00000
5POLE/CEE/32A/M Mains plug		094-000207-00000

Coolant		Item no.
KF 23E-10, -10° Coolant (-10 °C), 9.3 l		094-000530-00000
KF 23E-200, -10° Coolant (-10 °C), 200 l		094-000530-00001
KF 37E-10, -20° Coolant (-20 °C), 9.3 l		094-006256-00000

General		Item no.
DM1 32L/MIN Manometer pressure reducer • Single-stage pressure reducer for use with standard MIG/MAG welding equipment		094-000009-00000

Machine-dependent

Machines	Page	Picotig 190 AC/DC	Tetrix 230 AC/DC	Tetrix 300 AC/DC	Tetrix 351 AC/DC	Tetrix 451 AC/DC	Tetrix 551 AC/DC
Wire feed unit							
Tetrix Drive 4L	→ 123	–	–	–	•	•	•
Torch							
TIG 150 GD 8P 2T UD	→ 123	•	–	–	–	–	–
TIG 150 GD 12P RETOX HFL	→ 123	•	–	–	–	–	–
TIG 200 GD 8P 2T UD	→ 123	–	•	–	–	–	–
TIG 200 GD 12P RETOX HFL	→ 124	–	•	–	–	–	–
TIG 260 WD 5P 2T	→ 124	–	•	–	–	–	–
TIG 260 WD 12P RETOX HFL	→ 124	–	•	–	–	–	–
TIG 450 WD 12P RETOX HFL	→ 124	–	–	–	•	•	•
TIG 450 WD 8P 2T UD	→ 124	–	–	•	•	•	–
TIG 450 WD 12P RETOX HFL	→ 124	–	–	–	•	•	•
TIG 450SC WD 8P 2T UD HFL	→ 124	–	–	–	–	–	•
Remote control							
RT1 19POL	→ 124	–	•	•	•	•	•
RTP1 19POL	→ 125	–	•	•	•	•	•
RTP2 19POL	→ 125	–	•	•	•	•	•
RTF1 19POL 5M	→ 124	–	•	•	•	•	•
RA5 19POL 5M	→ 20	–	•	•	•	•	•
RTAC1 19POL	→ 154	–	–	•	•	•	•
Cooling module							
COOL40 U31	→ 125	–	•	–	–	–	–
COOL35 U31	→ 125	–	–	•	–	–	–
Transport vehicle							
Trolly 35-2	→ 125	•	•	•	–	–	–
Trolly 38-2 E	→ 126	•	•	•	–	–	–
Options for retrofitting							
ON 12POL RETOX TIG 230	→ 126	•	•	–	–	–	–
ON FILTER TIG 40	→ 127	•	•	–	–	–	–
ON 12POL RETOX TIG 300/351/451/551	→ 126	–	–	•	•	•	•
ON KEY SWITCH	→ 127	–	–	•	•	•	•
ON 7POL	→ 126	–	–	•	•	•	•
ON 19POL Tetrix 300/351	→ 126	–	–	•	•	–	–
ON FILTER T/P	→ 21	–	–	–	•	–	–
ON FSB WHEELS W/T/P	→ 21	–	–	–	•	•	•
ON HOLDER GAS BOTTLE <50L	→ 22	–	–	–	•	–	–
ON HOSE/FR MOUNT	→ 21	–	–	–	•	•	•
ON SHOCK PROTECT	→ 22	–	–	–	•	–	–
ON TOOL BOX	→ 22	–	–	–	•	•	•
ON NETSYNCHRON 351	→ 156	–	–	–	•	–	–
ON 19POL 351/451/551	→ 126	–	–	–	–	•	•
ON FILTER Tetrix XL	→ 156	–	–	–	–	•	•
ON HOLDER GAS BOTTLE <50L TETRIX XL	→ 157	–	–	–	–	•	•
ON NETSYNCHRON 451/551	→ 156	–	–	–	–	•	•
Factory-fit options							
OW REINFORCED PUMP T/P	→ 22	–	–	–	•	•	•
OW MULTIVOLT 351AC	→ 157	–	–	–	•	–	–
OW MULTIVOLT 351/451/551	→ 53	–	–	–	–	•	•
Mains plug							
ADAP SCHUKO/16ACEE	→ 53	•	•	–	–	–	–
5POLE/CEE/16A/M	→ 53	–	–	•	–	–	–
5POLE/CEE/32A/M	→ 22	–	–	–	•	•	•
Coolant							
KF 23E-10, -10°	→ 22	–	•	•	•	•	•
KF 23E-200, -10°	→ 22	–	•	•	•	•	•
KF 37E-10, -20°	→ 23	–	•	•	•	•	•
General							
DM1 32L/MIN	→ 23	•	•	•	•	•	•

Control-dependent

Controls	Page	Comfort	Synergic
Torch			
TIG 150 GD 12P RETOX HFL	→ 123	•	•
TIG 200 GD 12P RETOX HFL	→ 124	•	•
TIG 450SC WD 12P RETOX HFL	→ 124	•	•
TIG 450 WD 12P RETOX HFL	→ 124	•	•
Options for retrofitting			
ON 12POL RETOX TIG 300/351/451/551	→ 126	•	–
ON KEY SWITCH	→ 127	•	•

Technical data

		Picotig 190 AC/DC				Tetrix 230 AC/DC				Tetrix 300 AC/DC			
		TIG		MMA		TIG		MMA		TIG		MMA	
Mains voltage	V	230		230		230		230		400		400	
Setting range for welding current	A	5 - 190		5 - 140		3 - 230		5 - 180		5 - 300		5 - 300	
Duty cycle at ambient temperature	°C	25	40	25	40	25	40	25	40	25	40	25	40
35 %	A	–	–	–	–	–	230	–	180	–	–	–	–
40 %	A	–	190	–	–	230	–	–	–	–	300	–	–
45 %	A	–	–	–	–	–	–	180	–	300	–	–	–
50 %	A	–	–	140	140	–	–	–	–	–	–	–	–
60 %	A	190	150	130	130	180	160	160	140	–	270	–	260
65 %	A	–	–	–	–	–	–	–	–	270	–	260	–
100 %	A	150	120	110	110	150	130	140	110	220	210	210	200
Mains frequency	Hz	50 / 60				50 / 60				50 / 60			
Mains fuses (slow-blow)	A	1 x 16				1 x 16				3 x 16			
Mains voltage (tolerances)		1 x 230 V (-40 % - +15 %)				1 x 230 V (-40 % - +15 %)				3 x 400 V (-25 % - +20 %)			
Max. connected load	kVA	5.6		6		5.2		5.8		8.3		12	
Recommended generator power	kVA	8.1				7.8				16.4			
Dimensions, machine, L x W x H	mm	600 x 205 x 415				600 x 205 x 415				570 x 240 x 550			
Weight, machine	kg	16.5				17				36.5			
Protection classification		IP 23				IP 23				IP 23			
Insulation class		F				F				F			
Torch connection		decentral				decentral				decentral			
Standards		IEC 60 974-1 / IEC 60 974-3 / IEC 60 974-10 / CE / S-Safety sign				IEC 60 974-1 / IEC 60 974-3 / IEC 60 974-10 / CE / S-Safety sign				IEC 60 974-1 / IEC 60 974-3 / IEC 60 974-10 / CE / S-Safety sign			

Technical data

		Tetrix 351 AC/DC			Tetrix 451 AC/DC				Tetrix 551 AC/DC			
		TIG		MMA	MMA		TIG		TIG		MMA	
Setting range for welding current	A	5 - 350		5 - 350	5 - 450		5 - 450		5 - 550		5 - 550	
Duty cycle at ambient temperature	°C	25	40	–	25	40	25	40	25	40	25	40
60 %	A	–	350	–	–	–	–	–	550	550	550	550
80 %	A	350	–	–	–	450	–	450	520	–	520	–
100 %	A	320	300	–	450	420	450	420	450	420	450	420
Mains frequency	Hz	50 / 60			50 / 60				50 / 60			
Mains fuses (slow-blow)	A	3 x 25			3 x 35				3 x 35			
Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)			3 x 400 V (-25 % - +20 %)				3 x 400 V (-25 % - +20 %)			
Max. connected load	kVA	10.6		15	21.6		15.9		22.2		29.2	
Recommended generator power	kVA	20.5			29.1				39.4			
Dimensions, machine, L x W x H	mm	1100 x 455 x 1000			1080 x 690 x 1195				1080 x 690 x 1195			
Weight, machine	kg	126.5			168.5				176			
Protection classification		IP 23			IP 23				IP 23			
Insulation class		H			H				H			
Torch connection		decentral			decentral				decentral			
Cooling output	W	1500			1500				1500			
Tank capacity	l	12			12				12			
Flow rate	l/min	5			5				5			
Max. output pressure	bar	3.5			3.5				3.5			
Standards		IEC 60 974-1 / IEC 60 974-3 / IEC 60 974-10 / CE / S-Safety sign			IEC 60 974-1 / IEC 60 974-3 / IEC 60 974-10 / CE / S-Safety sign				IEC 60 974-1 / IEC 60 974-3 / IEC 60 974-10 / CE / S-Safety sign			

Plasma DC and AC/DC welding machines

It makes a plasma user's heart beat faster

Ideal partners for the various plasma welding and brazing tasks

These professional welding machines feature the latest plasma power-source technology. They allow users to meet the most taxing quality requirements in areas such as air and space travel. By using lower welding currents than the TIG process, these machines consume less energy yet achieve higher welding speeds.

Overview

Plasma DC and AC/DC welding machines portable

Max. welding current	Product name	Cooling		Page
A		Optional cooling module	water cooled	
20	microplasma 20	•	•	166
50	microplasma 50	•	•	166
120	microplasma 120	•	•	167
300	Tetrix 300 Plasma	•	•	168
350	Tetrix 350 AC/DC Plasma	•	•	169
400	Tetrix 400 Plasma	•	•	168

Product details	Page
Controls	170
Machine control overview	170
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Control functions	176
Options/accessories	179
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Machine-dependent	179
Technical data	180

microplasma

- Compact tabletop inverters
- Ideal for manual and mechanised applications

microplasma 20

Controls → 170
Options/accessories → 179
Technical data → 180

- Microplasma welding
- Portable, external water cooling (cooling module required!)
- 5 m mains supply lead with 16 A shock-proof plug

Mains voltage (tolerances)		1 x 230 V (-40 % - +15 %)
Mains fuses (slow-blow)	A	1 x 16
Setting range for welding current	A	0.1 - 20
Duty cycle 40 °C		20 A / 100 %
Dimensions L x W x H	mm	520 x 550 x 480
Weight	kg	50

microplasma 50

Controls → 170
Options/accessories → 179
Technical data → 180

- Microplasma welding
- Portable, external water cooling (cooling module required!)
- 5 m mains supply lead with 16 A shock-proof plug

Mains voltage (tolerances)		1 x 230 V (-40 % - +15 %)
Mains fuses (slow-blow)	A	1 x 16
Setting range for welding current	A	0.1 - 50
Duty cycle 40 °C		50 A / 100 %
Dimensions L x W x H	mm	520 x 550 x 480
Weight	kg	50

Universal
screens, foils, panels, electromechanical components

Outstanding welding properties
for all material thicknesses – through the highly stable plasma arc

microplasma 120

Controls → 170
Options/accessories → 179
Technical data → 180

- Microplasma welding
- Portable, external water cooling (cooling module required!)
- 5 m mains supply lead with 16 A shock-proof plug

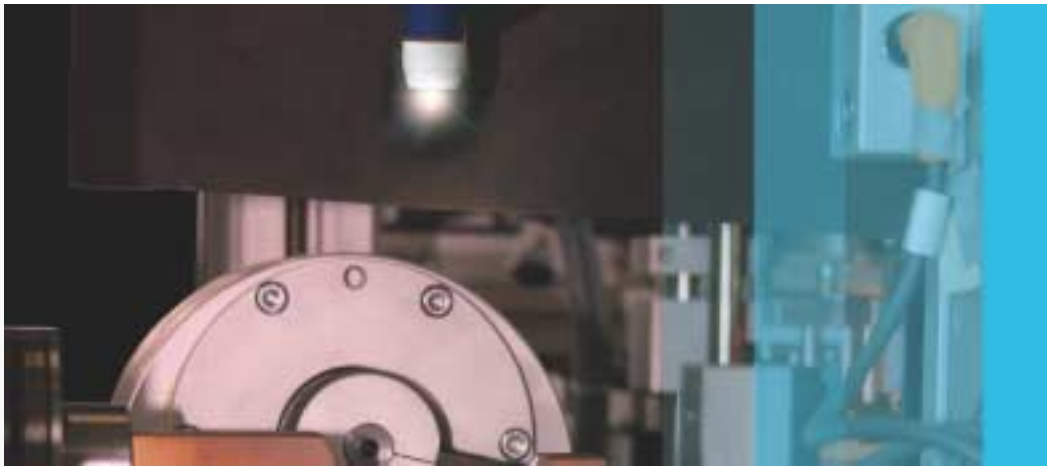
Mains voltage (tolerances)		1 x 230 V (-40 % - +15 %)
Mains fuses (slow-blow)	A	1 x 16
Setting range for welding current	A	0.5 - 120
Duty cycle 40 °C		120 A / 35 %
Duty cycle 40 °C		70 A / 100 %
Dimensions L x W x H	mm	520 x 550 x 480
Weight	kg	50

Convenient
Plasma and shielding gas setting on the machine with flow meters and push button for gas test without current

Precise welding current settings via
10-turn helical potentiometer

Tetrix Plasma

- Choice of various controls
- Ideal for mechanised applications



Tetrix 300 Plasma

Controls → 170
Options/accessories → 179
Technical data → 180

- Plasma welding and brazing
- Precise, highly stable plasma arc for targeted and concentrated heat feeding
- 5 m mains supply lead

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 35
Setting range for welding current	A	5 - 300
Duty cycle 40 °C		300 A / 100 %
Dimensions L x W x H	mm	660 x 335 x 850
Weight	kg	83

Tetrix 400 Plasma

Controls → 170
Options/accessories → 179
Technical data → 180

- Plasma welding and brazing
- Precise, highly stable plasma arc for targeted and concentrated heat feeding
- 5 m mains supply lead

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 35
Setting range for welding current	A	5 - 400
Duty cycle 40 °C		400 A / 40 %
Duty cycle 40 °C		380 A / 60 %
Duty cycle 40 °C		320 A / 100 %
Dimensions L x W x H	mm	660 x 335 x 850
Weight	kg	83

Wide range of accessories:
re-cooling equipment, remote controls, manual and machine torches, gas dosage units

Plug & Weld
Extremely flexible thanks to modular and future-oriented machine system with expansion potential to suit demand

Tetrix 350 AC/DC Plasma

Controls → 170
Options/accessories → 179
Technical data → 180

- Plasma welding and brazing
- Precise, highly stable plasma arc for targeted and concentrated heat feeding
- 5 m mains supply lead

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 25
Setting range for welding current	A	5 - 350
Duty cycle 40 °C		350 A / 40 %
Duty cycle 40 °C		325 A / 60 %
Duty cycle 40 °C		260 A / 100 %
Dimensions L x W x H	mm	660 x 335 x 745
Weight	kg	87

Key switch – standard or optional
Secures parameter settings and locks the operating surface

Easy to use on site
The Retox torch allows all programs, operating modes and the up/down function to be called up at the touch of a button.

Machine control overview

Controls	microplasma	Classic DC	Comfort DC	Synergic DC	Synergic AC/DC
Machines					
microplasma 20	•	–	–	–	–
microplasma 50	•	–	–	–	–
microplasma 120	•	–	–	–	–
Tetrix 300 Plasma	–	•	•	•	–
Tetrix 400 Plasma	–	•	•	•	–
Tetrix 350 AC/DC Plasma	–	–	–	–	•

Control details

microplasma

Maximum ease-of-operation

- Precise setting of the welding current with 10-turn helical potentiometer
- Reproducible setting of all welding parameters thanks to digital display for welding current and welding voltage (option)
- Self-explanatory operating surface
- Direct access to all welding parameters via rotary dials

Control details

Classic DC

Classic operation

- Self-explanatory operating surface
- Direct access to all welding parameters via rotary dials
- Reproducible setting of all welding parameters with digital display

Comfort DC

Proven convenience – all welding parameters can be adjusted

- One-dial operation with clear, self-explanatory operating surface
- User support for setting the welding parameters
- 8 JOBs (welding tasks) which can also be called up via the torch
- Reproducible setting of all welding parameters with digital display
- Connection capability for remote control
- Also ideal for mechanised and automatic applications

Control details

Synergic DC

Very easy and extremely convenient to use thanks to EWM TIG Synergic operation

- JOBs (welding tasks) can be selected via material, seam, welding current/panel thickness. The digital system automatically finds the best welding parameters.
- One-dial operation with clear, self-explanatory operating surface
- 256 JOBs (welding tasks) which can also be called up via the torch
- Reproducible setting of all welding parameters with digital displays
- Connection capability for torch and remote control, and for PC with welding data and documentation software
- Also ideal for mechanised and automatic applications

Synergic AC/DC

Very easy and extremely convenient to use thanks to EWM TIG Synergic operation

- JOBs (welding tasks) can be selected via material, seam, welding current/panel thickness. The digital system automatically finds the best welding parameters.
- One-dial operation with clear, self-explanatory operating surface
- 256 JOBs (welding tasks) which can also be called up via the torch
- Reproducible setting of all welding parameters with digital displays
- Connection capability for torch and remote control, and for PC with welding data and documentation software
- Direct access to extensive AC functions
- Also ideal for mechanised and automatic applications

Control functions

Control	microplasma	Classic DC	Comfort DC	Synergic DC	Synergic AC/DC
Functions					
General					
Plasma	•	•	•	•	•
EWM-activArc	–	•	•	•	•
EWM-spotArc	–	•	•	•	•
MMA	–	•	•	•	•
TIG	–	•	•	•	•
TIG AC	–	–	–	–	•
Non-latched	•	•	•	•	•
Latched	•	•	•	•	•
Tapping mode	–	•	•	•	•
Spots	–	•	•	•	•
Synergic operation	–	–	–	•	•
Pulses	–	–	•	•	•
kHz pulses	–	–	•	•	•
Automated pulses	–	–	•	•	•
HF	–	•	•	•	•
Liftarc	–	•	•	•	•
Gas pre-flow time	•	•	•	•	•
Upslope time	•	•	•	•	•
Ignition current	•	•	•	•	•
Main current	•	•	•	•	•
Secondary current	•	•	•	•	•
Downslope time	•	•	•	•	•
Gas post-flow time	•	–	–	–	–
End current	–	•	•	•	•
Pulse time	–	•	•	•	•
Pause time	–	•	•	•	•
Hold function	–	•	•	•	•
AC frequency mains-synchronous operation	–	–	–	–	•
AC frequency master/slave operation	–	–	–	–	•
Gas test, currentless	•	–	–	•	•
Rinse tube package	–	–	–	•	•
Displays					
Welding current	•	•	•	•	•
Welding voltage	•	•	•	•	•
Welding parameters	–	•	•	•	•
Error code	–	•	•	•	•
JOB number	–	–	•	•	•
Metal sheet thickness	–	–	–	•	•
Program number	–	–	–	•	•
Excess temperature	•	•	•	•	•
Collective interference	–	•	•	•	•
Water deficiency	–	•	•	•	•
MMA					
Hotstart	–	•	•	•	•
Arcforce	–	•	•	•	•
Antistick	–	•	•	•	•
TIG					
Upslope time	•	–	–	–	–

Options/accessories

Power sources	Item no.
microplasma 20 Microplasma welding machine	090-007010-00501
microplasma 50 Microplasma welding machine	090-007012-00501
microplasma 120 Microplasma welding machine	090-007015-00502
Tetrix 300 Comfort Plasma Plasma DC welding machine	090-007020-00502
Tetrix 400 Comfort Plasma Plasma DC welding machine	090-007017-00502
Tetrix 350 AC/DC Synergic Plasma Plasma AC/DC welding machine	090-004854-00502

Remote control	Item no.
FR21 14POL 5M Foot-operated remote control, current • Infinitely adjustable welding current (0% to 100%) depending on the main current preselected at the welding machine. • Operating point setting directly at the site of welding	094-000051-00000
FR30 14POL 5M Remote control, current • Infinitely adjustable welding current (0% to 100%) depending on the main current preselected at the welding machine. • Operating point setting directly at the site of welding • Robust metal casing with rubber feet, stirrup and holding magnet	090-008005-00000
FRP10 14POL 5M Remote control, pulse/spot • Robust metal casing with rubber feet, stirrup and holding magnet	090-008002-00000
FRP15 14POL 5M Remote control, pulses • Robust metal casing with rubber feet, stirrup and holding magnet	090-008045-00000

Cooling module	Item no.
COOL71 U43 Cooling module with centrifugal pump • Modular design, tool-free assembly • Cooling capacity 1 l/min: 1200 W, max. flow rate: 5 l/min, max. output pressure: 3.5 bar, 7 l tank capacity • Dimensions L x W x H in mm, 685 x 335 x 255 Weight 25 kg	090-008220-00502

Transport vehicle	Item no.
Trolly 70-3 DF Workshop transport vehicle, crane-liftable, for power source and 2 modules and 2 gas cylinders • Solid, stable design • For transporting a power source, three modules and two gas cylinders • Dimensions L x W x H in mm, 1050 x 500 x 1325. Weight 50 kg	090-008159-00000

Options for retrofitting	Item no.
ON DAV3 Digital voltmeter, microplasma	092-000537-00000

Options/accessories

Coolant	Item no.
DKF10 Deionised coolant, no frost protection	094-001504-00000

General	Item no.
GDE2 Gas metering unit with 2 gas quantity meters	090-008077-00000
GDE3 Gas metering unit with 3 gas quantity meters	090-008081-00000

Cooling unit	Item no.
UK 500 Air cooling unit	090-008026-00504
RK 1 Reverse cooling unit	094-002283-00000

Machine-dependent

Machines	Page	microplasma 20	microplasma 50	microplasma 120	Tetrix 300 Plasma	Tetrix 400 Plasma	Tetrix 350 AC/DC Plasma
Remote control							
FR21 14POL 5M	→ 177	•	•	•	–	–	–
FR30 14POL 5M	→ 177	•	•	•	–	–	–
FRP10 14POL 5M	→ 177	•	•	•	–	–	–
FRP15 14POL 5M	→ 177	•	•	•	–	–	–
Cooling module							
COOL71 U43	→ 20	–	–	–	•	•	•
Transport vehicle							
Trolly 70-3 DF	→ 177	–	–	–	•	•	•
Options for retrofitting							
ON DAV3	→ 177	•	•	•	–	–	–
Coolant							
DKF10	→ 178	•	•	•	–	–	–
General							
GDE2	→ 178	–	–	–	•	•	•
GDE3	→ 178	–	–	–	•	•	•
Cooling unit							
UK 500	→ 178	•	•	•	–	–	–
RK 1	→ 178	•	•	•	•	•	•

Technical data

		microplas-ma 20	microplas-ma 50	microplas-ma 120	Tetrix 300 Plasma	Tetrix 400 Plasma		Tetrix 350 AC/DC Plasma	
		Plasma	Plasma	Plasma	Plasma	Plasma		Plasma	
Mains voltage	V	230	230	230	400	400		400	
Setting range for welding current	A	0.1 - 20	0.1 - 50	0.5 - 120	5 - 300	5 - 400		5 - 350	
Pilot arc current	A	1 - 10	1 - 10	1 - 10	5 - 25	5 - 25		5 - 25	
Duty cycle at ambient temperature	°C	40	40	40	40	25	40	25	40
35 %	A	–	–	120	–	–	–	–	–
40 %	A	–	–	–	–	–	400	–	350
45 %	A	–	–	–	–	400	–	–	–
60 %	A	–	–	–	–	–	380	350	325
65 %	A	–	–	–	–	380	–	–	–
100 %	A	20	50	70	300	330	320	260	260
Mains frequency	Hz	50 / 60	50 / 60	50 / 60	50 / 60	50 / 60		50 / 60	
Mains fuses (slow-blow)	A	1 x 16	1 x 16	1 x 16	3 x 35	3 x 35		3 x 25	
Mains voltage (tolerances)		1 x 230 V (-40 % - +15 %)	1 x 230 V (-40 % - +15 %)	1 x 230 V (-40 % - +15 %)	3 x 400 V (-25 % - +20 %)	3 x 400 V (-25 % - +20 %)		3 x 400 V (-25 % - +20 %)	
Max. connected load	kVA	0.85	1.6	4.1	14	20.7		15	
Recommended generator power	kVA	–	–	–	18.9	28		20.5	
Dimensions, machine, L x W x H	mm	520 x 550 x 480	520 x 550 x 480	520 x 550 x 480	660 x 335 x 850	660 x 335 x 850		660 x 335 x 745	
Weight, machine	kg	50	50	50	83	83		87	
Protection classification		IP 23	IP 23	IP 23	IP 23	IP 23		IP 23	
Insulation class		H	H	H	H	H		F	
Standards		IEC 60 974-1 / IEC 60 974-3 / IEC 60 974-10 / CE / S-Safety sign	IEC 60 974-1 / IEC 60 974-3 / IEC 60 974-10 / CE / S-Safety sign	IEC 60 974-1 / IEC 60 974-3 / IEC 60 974-10 / CE / S-Safety sign	IEC 60 974-1 / IEC 60 974-3 / IEC 60 974-10 / CE / S-Safety sign	IEC 60 974-1 / IEC 60 974-3 / IEC 60 974-10 / CE / S-Safety sign		IEC 60 974-1 / IEC 60 974-3 / IEC 60 974-10 / CE / S-Safety sign	

MMA DC welding machines

Low investment costs and universal applications make MMA welding machines from EWM extremely economical. The innovative EWM inverter technology offers premium quality and high output with low energy consumption. This development sets new environmental standards! Easy handling for a wide range of tasks: from very small yet high-output power sources for quick and easy repair and assembly, right through to the robust professional MMA which performs reliably and powerfully even in pipeline construction and offshore.

Overview

MMA DC welding machines portable

Max. welding current	Product name	Cooling	Page
A		gas cooled	
160	Pico 162	•	186
	Pico 162 MV	•	186
180	Pico 180	•	187
300	Pico 300 cel	•	190
	Pico 300 cel pws	•	190
350	Stick 350 cel	•	191
	Stick 350 cel pws	•	191

Product details	Page
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Options/accessories	202
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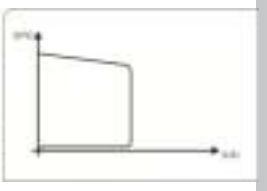
Light, robust and small

The Pico 162 and 180, EWM's miniature powerhouses, are mighty midgets even though they are hardly bigger than a shoe box. The particularly handy inverter power sources are real all-rounders. With an output of up to 160 or 180 amperes, they set new standards in their class. The outstanding welding properties, large mains voltage range and easy handling of the Picos makes them the MMA specialists for assembly work. The Pico 162 MV is a universal all-rounder which automatically detects the mains voltages of different countries between 115 and 230 volts.

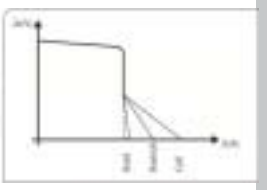
Pico

Highlights



Antistick – weld like a professional

Extremely easy welding: the arc burns steadily without sticking or annealing of the stick electrode.



Arcforce: tuning for all electrodes

Arcforce offers exceptional welding properties with all types of electrodes. No short circuits, even with rutile-cellulose electrodes.

Perfect weld seams even with thick electrodes

Even 4-millimetre electrodes are no problem for the Pico. State-of-the-art inverter technology with superb control dynamics provides a stable arc. This makes even jointing with rutile or rutile-cellulose electrodes that are hard to weld effortless.

Light, transportable and mobile

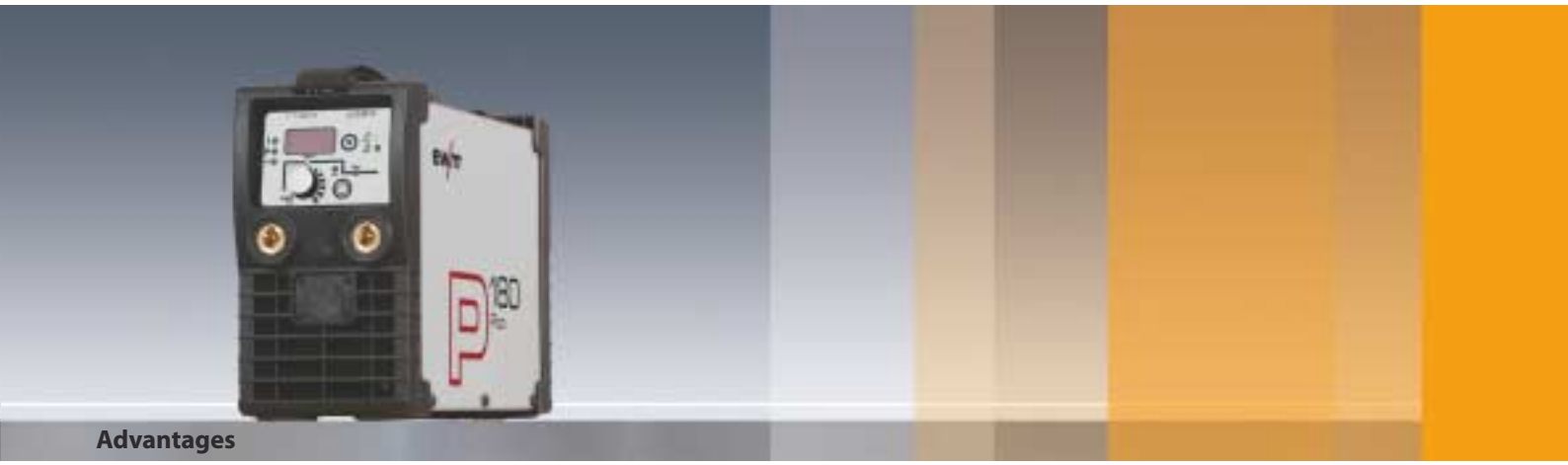
Easily transportable to any work location. Very small and lightweight in a robust plastic casing, this machine can easily be carried up ladders or over cramped scaffolding.

100% suitable for construction sites

Perfect for large construction sites and very tough assembly work with mains supply leads up to 50 metres or connected directly to a generator. High tolerance to mains fluctuations ensures a perfect welding result.

Reliable, safe, cost-effective

All electronic components are particularly well protected against dust. The temperature-controlled fan prevents unnecessary intake of dirt. An all-round low-maintenance, reliable and therefore cost-effective solution!



Advantages

Very comfortable to carry

Stable and comfortable carrying strap, slender and convenient design

Modern, ergonomic casing

The front and rear sections of the machine are made of shock-resistant plastic, with rounded corners and edges

Extremely resilient

Side panels made from powder-coated sheet aluminium

Intelligent casing design

Optimised air conduction for long duty cycle

Operating elements

Particularly stable, clear and protected configuration

Safe and reliable

Integrated temperature monitors protect against overload

Pico 162 / Pico 180

- TIG (Liftarc)
- 100% generator-compatible
- Flyweight: small, light, compact
- Extended mains voltage range – ideal for use on construction sites

Pico 162

Controls → 192
Options/accessories → 202
Technical data → 204

- MMA and TIG Liftarc welding
- Portable, shoulder strap
- Arcforcing, hotstart, antistick
- 3 m mains supply lead with 16 A shock-proof plug

Mains voltage (tolerances)		1 x 230 V (-40 % - +15 %)
Mains fuses (slow-blow)	A	1 x 16
Setting range for welding current	A	10 - 150
Duty cycle 40 °C		150 A / 35 %
Duty cycle 40 °C		120 A / 60 %
Duty cycle 40 °C		100 A / 100 %
Dimensions L x W x H	mm	400 x 115 x 225
Weight	kg	4.8

Pico 162 MV

Controls → 192
Options/accessories → 202
Technical data → 204

- Multivolt: automatic mains voltage adaptation (115 V/230 V)
- Portable, shoulder strap
- Arcforcing, hotstart, antistick
- 3 m mains supply lead with 16 A shock-proof plug

Mains voltage (tolerances)		1 x 115 V (-15 % - +15 %)	1 x 230 V (-40 % - +15 %)
Mains fuses (slow-blow)	A	1 x 25	1 x 16
Setting range for welding current	A	10 - 110	10 - 150
Duty cycle 40 °C		110 A / 35 %	150 A / 35 %
Duty cycle 40 °C		90 A / 60 %	120 A / 60 %
Duty cycle 40 °C		80 A / 100 %	100 A / 100 %
Dimensions L x W x H	mm	400 x 115 x 225	
Weight	kg	5.1	

Overvoltage protection.
Accidental connection to 400 V mains voltage does not result in damage to the machine

Made-to-measure open circuit voltage – for worldwide use
The VRD (voltage reduction device) function reduces the open circuit voltage to safe levels. This option meets regional requirements and standards all over the world.

Pico 180

Controls → 192
Options/accessories → 202
Technical data → 205

- Portable, shoulder strap
- Arcforcing and hotstart can be set
- Arcforcing, hotstart, antistick
- Antistick

Mains voltage (tolerances)		1 x 230 V (-40 % - +15 %)
Mains fuses (slow-blow)	A	1 x 20
Setting range for welding current	A	5 - 180
Duty cycle 40 °C		180 A / 25 %
Duty cycle 40 °C		150 A / 35 %
Duty cycle 40 °C		120 A / 60 %
Duty cycle 40 °C		105 A / 100 %
Dimensions L x W x H	mm	470 x 135 x 250
Weight	kg	7.9

Hotstart for exceptional quality

The variable Hotstart function (adjustable current and time) reliably ignites the electrode and melts perfectly to ensure the best quality even at the start of the seam. This solution makes lack of fusion and cold welds a thing of the past and significantly reduces excess weld metal.

Antistick: no annealing

If the welding current is too low, sticking and annealing of the electrode can occur. Antistick lowers the current, thus preventing annealing and keeping the electrode in serviceable condition.

Compact, indestructible and versatile

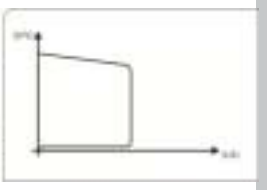
For tough, safe everyday operation on construction sites and in assembly work, the resilient MMA professional machines with metal casing offer the perfect solution. Even on long mains leads or connected to a generator, the welding electrode ignites reliably. EWM inverter technology with digital control ensures a stable arc, providing problem-free welding even for special electrodes. The CEL model versions are 100% safe for vertical-down welds with cellulose electrodes.

Pico

Highlights

Ideal for every construction site

Slimline design and effortless transport with stable carrying bar – the perfect partner for almost any construction site. Mains fluctuations are no problem for EWM power sources. This machine performs reliably even with weak mains supplies or extra-long cables. Well-thought-out ventilation ensures long duty cycles and protects against dirt.

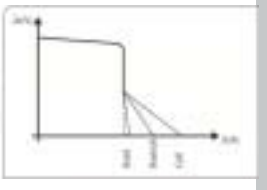


Antistick – weld like a professional

Extremely easy welding: the arc burns steadily without sticking or annealing of the stick electrode.

Reliable ignition and excellent welding properties

The digital inverter technology ensures superb arc characteristics for all electrode types, a reliable, stable arc and an easily controlled molten pool. The high open circuit voltage and hotstart function guarantee reliable ignition for the long term.

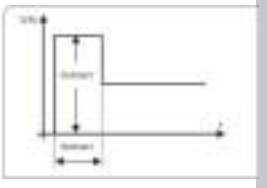


Arcforce: tuning for all electrodes

Arcforce offers exceptional welding properties with all types of electrodes. No short circuits, even with rutile-cellulose electrodes.

Safe and reliable

Low-maintenance and durable: temperature-controlled fans and protected positioning of the electronic components keep dust away, ensuring highly reliable operation. The integrated temperature monitor is the perfect protection against overloading.



Hotstart for exceptional quality

The variable Hotstart function (adjustable current and time) reliably ignites the electrode and melts perfectly to ensure the best quality even at the start of the seam. This solution makes lack of fusion and cold welds a thing of the past and significantly reduces weld reinforcement.

Advantages

Convenient transport

Handy carrying handles, stable carrying bar and carrying strap, slender and convenient design

Metal casing: robust and durable

Ideal for construction sites: powder-coated sheet steel, phosphatised to prevent corrosion, impact- and scratch-resistant yet extremely light

Well-thought-out casing design

Dust remains outside: closed casing trough, increased cooling air inlets with blade/grill combination

Safe and reliable

Integrated temperature monitors protect against overload and extend the duty cycle

Easy welding machine control

Everything at a glance: self-explanatory with one-dial operation, display, large range of functions

Best protection

Operating and connection elements recessed to protect against damage

Pico 300 / Stick 350

- 100% suitable for construction sites and generators thanks to expanded mains voltage range
- Pico: digital control with highly straightforward operation and display for welding current and voltage
- PICO: TIG welding (Liftarc)

Pico 300 cel

Controls → 192
Options/accessories → 202
Technical data → 205

- Cellulose electrodes: 100% safe for vertical-down welding
- Arcforcing and hotstart can be set
- Antistick
- 5 m mains supply lead

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 16
Setting range for welding current	A	10 - 300
Duty cycle 40 °C		300 A / 25 %
Duty cycle 40 °C		220 A / 60 %
Duty cycle 40 °C		170 A / 100 %
Dimensions L x W x H	mm	515 x 185 x 350
Weight	kg	16.5

Pico 300 cel pws

Controls → 192
Options/accessories → 202
Technical data → 205

- Cellulose electrodes: 100% safe for vertical-down welding
- Arcforcing and hotstart can be set
- Antistick
- Pole reversal on the machine or via remote control

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 16
Setting range for welding current	A	10 - 300
Duty cycle 40 °C		300 A / 25 %
Duty cycle 40 °C		220 A / 60 %
Duty cycle 40 °C		170 A / 100 %
Dimensions L x W x H	mm	515 x 185 x 445
Weight	kg	23.5

Made-to-measure open circuit voltage – for worldwide use
The VRD (voltage reduction device) function reduces the open circuit voltage to safe levels. This option meets regional requirements and standards all over the world.

No pipeline without Pico/Stick CEL
100% reliability for vertical-down welds with cellulose electrodes.

Stick 350 cel

Controls → 192
Options/accessories → 202
Technical data → 206

- Cellulose electrodes: 100% safe for vertical-down welding
- Arcforcing and hotstart can be set
- Antistick
- 5 m mains supply lead

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 25
Setting range for welding current	A	20 - 350
Duty cycle 40 °C		350 A / 30 %
Duty cycle 40 °C		250 A / 60 %
Duty cycle 40 °C		190 A / 100 %
Dimensions L x W x H	mm	700 x 230 x 455
Weight	kg	35.5

Stick 350 cel pws

Controls → 192
Options/accessories → 202
Technical data → 206

- Cellulose electrodes: 100% safe for vertical-down welding
- Arcforcing and hotstart can be set
- Antistick
- Pole reversal on the machine or via remote control

Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)
Mains fuses (slow-blow)	A	3 x 25
Setting range for welding current	A	20 - 350
Duty cycle 40 °C		350 A / 30 %
Duty cycle 40 °C		250 A / 60 %
Duty cycle 40 °C		190 A / 100 %
Dimensions L x W x H	mm	700 x 230 x 455
Weight	kg	37.5

Antistick: no annealing
If the welding current is too low, sticking and annealing of the electrode can occur. Antistick lowers the current, thus preventing annealing and keeping the electrode in serviceable condition.

Polarity can be freely selected
Basic or cellulose electrodes „run" better with the minus pole on the workpiece. The welder can solve the question of the right polarity directly on site with the remote control of the Pico/Stick pws.

Machine control overview

Controls	Pico 162 (MV)	Pico 180	Pico 300 cel (pws)	Stick 350 cel (pws)
Machines				
Pico 162	•	–	–	–
Pico 162 MV	•	–	–	–
Pico 180	–	•	–	–
Pico 300 cel	–	–	•	–
Pico 300 cel pws	–	–	•	–
Stick 350 cel	–	–	–	•
Stick 350 cel pws	–	–	–	•

Control details

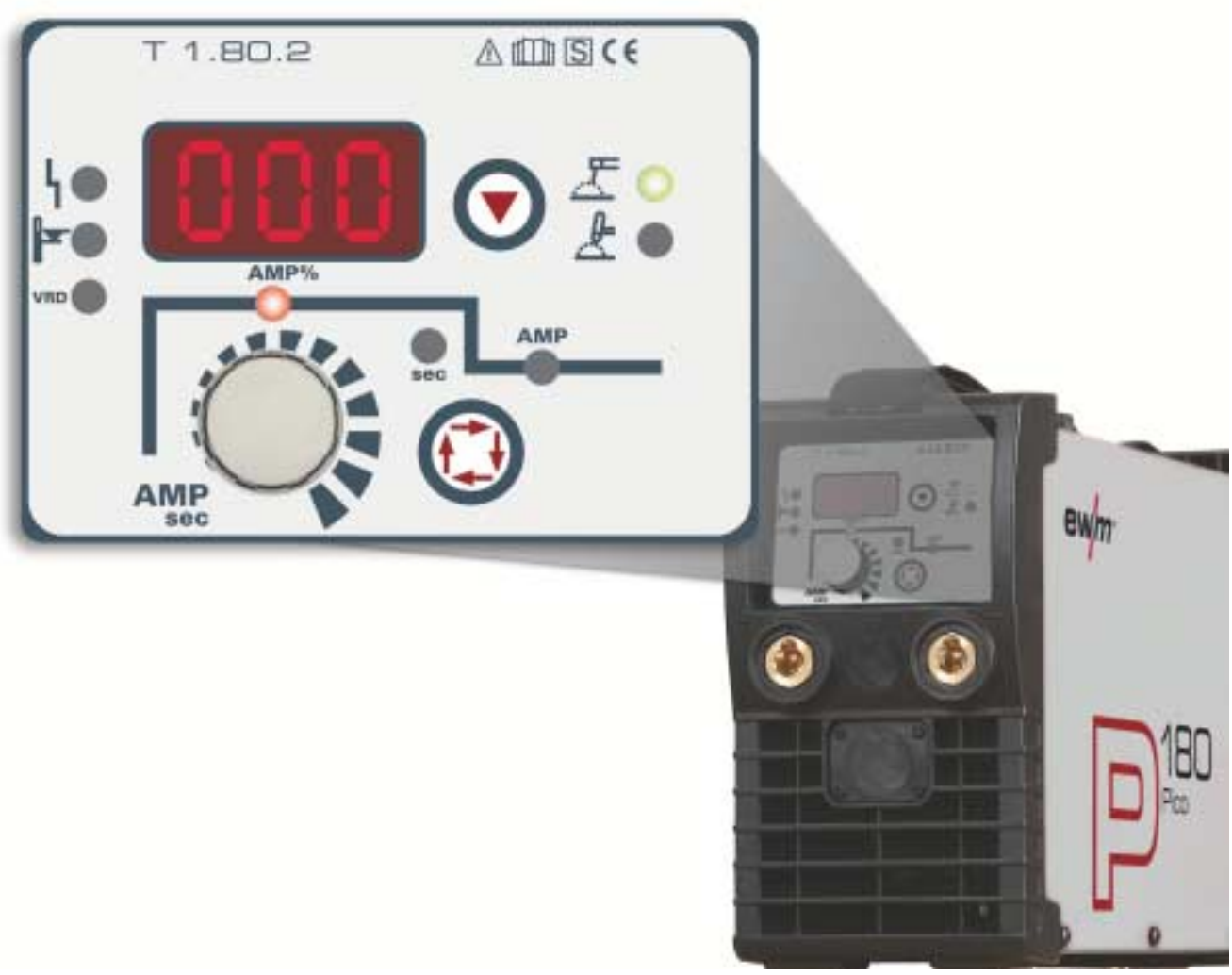
Pico 162 (MV)

Classic operation

- Rotary dial for direct-access setting of welding current

Control details

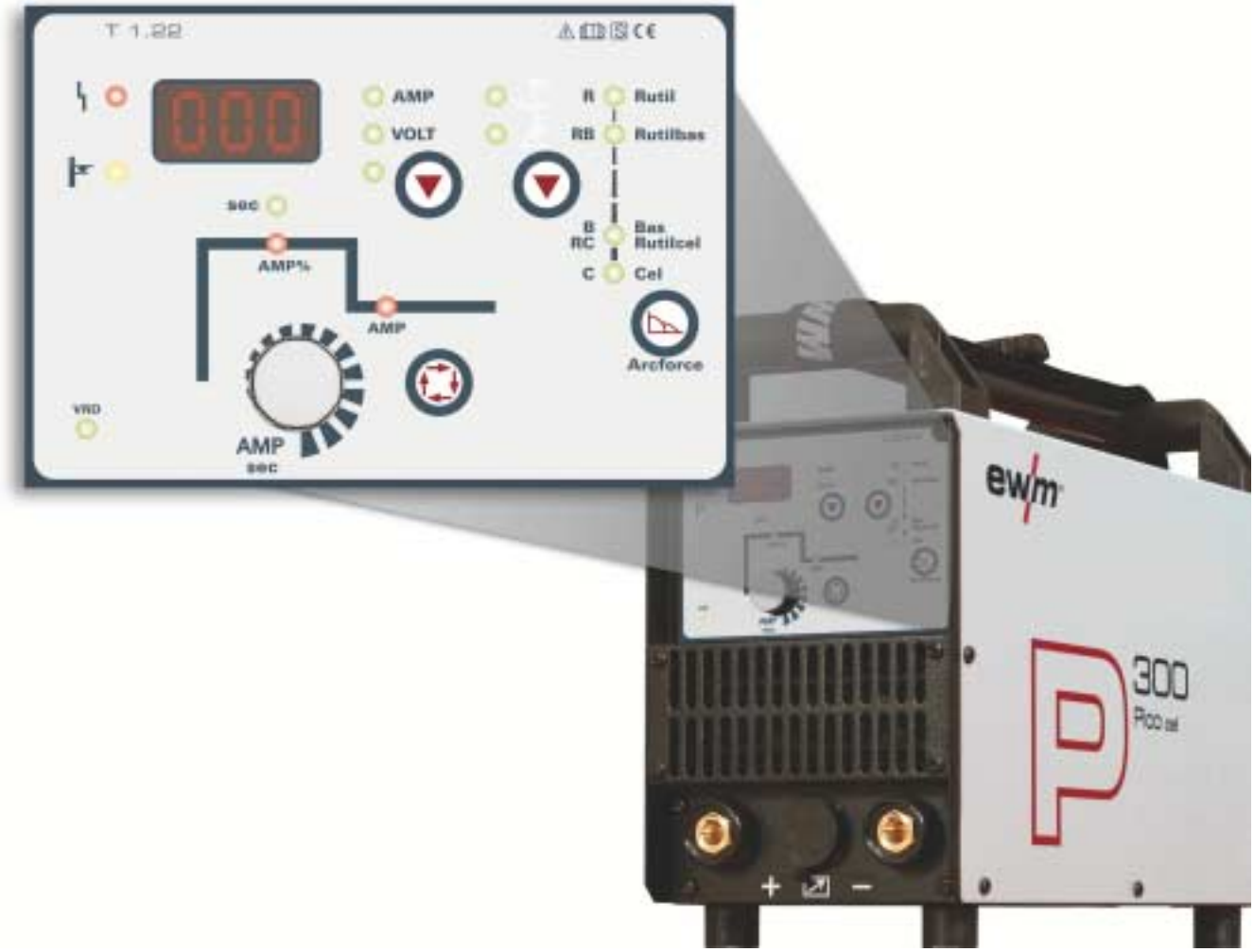
Pico 180



Simplest possible operation with maximum ease-of-use

- Self-explanatory operating surface with one-dial operation
- User support for setting the welding parameters
- Reproducible setting of all welding parameters with digital display

Pico 300 cel (pws)



Simplest possible operation with maximum ease-of-use

- Self-explanatory operating surface with one-dial operation
- User support for setting the welding parameters
- Reproducible setting of all welding parameters with digital display

Control details

Stick 350 cel (pws)

Classic operation

- Self-explanatory operating surface
- Direct access to all welding parameters via rotary dials

Control functions

Control	Pico 162 (MV)	Pico 180	Pico 300 cel (pws)	Stick 350 cel (pws)
Functions				
General				
MMA	•	•	•	•
TIG	•	•	•	–
One-dial operation	•	–	–	–
Liftarc	•	•	•	–
VRD	–	–	•	–
Displays				
Welding current	–	•	•	–
Error code	–	•	•	–
Welding voltage	–	–	•	–
Ready for operation	•	–	–	–
Excess temperature	•	•	•	•
Collective interference	–	•	•	–
MMA				
Hotstart	•	•	•	•
Arcforce	•	•	•	•
Antistick	•	•	•	•
CEL	–	–	•	•
PWS	–	–	•	•
TIG				
Main current	•	•	•	•
Ignition current	–	•	•	•

Options/accessories

Power sources	Item no.
Pico 162 MMA inverter welding machine	090-002040-00502
Pico 162 MV MMA multivolt inverter welding machine	090-002042-00502
Pico 180 MMA inverter welding machine	090-002003-00502
Pico 300 cel MMA inverter welding machine	090-002043-00502
Pico 300 cel pws MMA inverter welding machine, pole reversing switch	090-002044-00502
Stick 350 cel MMA inverter welding machine	090-002029-00502
Stick 350 cel pws MMA inverter welding machine	090-002030-00502

Set		Item no.
SET Pico 162 MMA set: PICO 162 and welding site equipment in a case • Contents: power source, aluminium- framed hard topped case, electrode holder, workpiece lead, hand shield for welding, slag hammer, steel brush		091-002040-00502
SET Pico 162 MV MMA set: PICO 162 MV and welding site equipment in a case • Contents: power source, aluminium- framed hard topped case, electrode holder, workpiece lead, hand shield for welding, slag hammer, steel brush		091-002059-00502

Torch		Item no.
TIG 17 GDV TIG welding torch, rotary gas valve, gas-cooled, decentral • Double push-button • Gas rotary valve		094-007866-00000
TIG 26GDV TIG welding torch, rotary gas valve, gas-cooled, decentral • Gas rotary valve		094-010979-00000

Remote control		Item no.
FR21 14POL 5M Foot-operated remote control, current • Infinitely adjustable welding current (0% to 100%) depending on the main current preselected at the welding machine. • Operating point setting directly at the site of welding		094-000051-00000
FR30 14POL 5M Remote control, current • Infinitely adjustable welding current (0% to 100%) depending on the main current preselected at the welding machine. • Operating point setting directly at the site of welding • Robust metal casing with rubber feet, stirrup and holding magnet		090-008005-00000

Remote control		Item no.
FR30PWS 14POL 5M Remote control, current pole reversal • Infinitely adjustable welding current (0% to 100%) depending on the main current preselected at the welding machine. • Pole reversing switch, suitable for machines with PRS function. • Operating point setting directly at the site of welding • Robust metal casing with rubber feet, stirrup and holding magnet		090-008039-00000
FRF30 14POL 5M Remote control, vertical-down weld, current • Operating point setting directly at the site of welding • Robust metal casing with rubber feet, stirrup and holding magnet		090-008057-00000
FRF30 PWS 14POL 5M Remote control, vertical-down weld, current pole reversal • Operating point setting directly at the site of welding • Robust metal casing with rubber feet, stirrup and holding magnet		090-008061-00000
FR35 14POL 5M Remote control, Hotstart • Infinitely adjustable welding current (0% to 100%) depending on the main current preselected at the welding machine. • Potentiometer for hotstart current infinitely adjustable in % of maximum main current. • Potentiometer for hotstart time infinitely adjustable from 0 to 2 sec. • An additional remote control can be connected (e.g. FR 30, FR 21 or FRA 40). • Operating point setting directly at the site of welding • Robust metal casing with rubber feet, stirrup and holding magnet		090-008044-00000
FRA40 14POL 0,3M Remote control, current with display • Infinitely adjustable welding current (0% to 100%) depending on the main current preselected at the welding machine. • An additional remote control can be connected (e.g. FR 21 or FRA 30). • Current pre-selection with additionally connected remote control (e.g. FR 21 or FR 30). • Operating point setting directly at the site of welding • Robust metal casing with rubber feet, stirrup and holding magnet		090-008032-00000
RT1 19POL Remote control, current • Infinitely adjustable welding current (0% to 100%) depending on the main current preselected at the welding machine. • Operating point setting directly at the site of welding • Robust metal casing with rubber feet, stirrup and holding magnet		090-008097-00000
RT PWS1 19POL Remote control, vertical-down weld, current pole reversal • Infinitely adjustable welding current (0% to 100%) depending on the main current preselected at the welding machine. • Pole reversing switch, suitable for machines with PRS function. • Operating point setting directly at the site of welding		090-008199-00000
RTF1 19POL 5M Foot-operated remote control, current, with connection cable • Infinitely adjustable welding current (0% to 100%) depending on the main current preselected at the welding machine. • Start/stop welding operation • Operating point setting directly at the site of welding		094-006680-00000
RA5 19POL 5M Remote control e.g. connection cable		092-001470-00005

Options/accessories

Options for retrofitting		Item no.
ON FILTER Pico 162 Dirt filter for air inlet • Reliably protects the machine from impurities under tough working conditions.		092-002072-00000
ON FILTER Pico 300 Dirt filter for air inlet • Reliably protects the machine from impurities under tough working conditions.		092-001856-00000
ON FILTER Pico/Picotig 180 Dirt filter for air inlet		092-002546-00000

Workpiece lead		Item no.
WK16QMM KL Workpiece lead		094-005314-00000
WK50QMM KL Workpiece lead		092-000003-00000

Mains plug		Item no.
ADAP SCHUKO/16ACEE Earth contact coupling/CEE16A plug		092-000812-00000
5POLE/CEE/16A/M Mains plug		094-000712-00000
5POLE/CEE/32A/M Mains plug		094-000207-00000

General		Item no.
EH16QMM 4M Electrode holder		094-005313-00000
EH35QMM 4M Electrode holder		094-000052-00000
WK35QMM 4M KL Workpiece lead		092-000008-00000
DM1 32L/MIN Manometer pressure reducer • Single-stage pressure reducer for use with standard MIG/MAG welding equipment		094-000009-00000
ADAP 16/25-35 QMM Welding current socket adapter, 16/25 to 35 mm²		094-001780-00000

		Item no.
EHS 400/50 Electrode holder, standard		098-000714-00000

Machine-dependent

Machines	Page	Pico 162	Pico 162 MV	Pico 180	Pico 300 cel	Pico 300 cel pws	Stick 350 cel
Set							
SET Pico 162	→ 198	•	–	–	–	–	–
SET Pico 162 MV	→ 198	–	•	–	–	–	–
Torch							
TIG 17 GDV	→ 198	•	•	–	–	–	–
TIG 26GDV	→ 198	–	–	•	•	•	–
Remote control							
RT1 19POL	→ 124	–	–	•	•	•	–
RTF1 19POL 5M	→ 124	–	–	•	•	•	–
RA5 19POL 5M	→ 20	–	–	•	•	•	–
RT PWS1 19POL	→ 199	–	–	–	–	•	–
FR21 14POL 5M	→ 177	–	–	–	–	–	•
FR30 14POL 5M	→ 177	–	–	–	–	–	•
FRF30 14POL 5M	→ 199	–	–	–	–	–	•
FR35 14POL 5M	→ 199	–	–	–	–	–	•
FRA40 14POL 0,3M	→ 199	–	–	–	–	–	•
FR30PWS 14POL 5M	→ 199	–	–	–	–	–	–
FRF30 PWS 14POL 5M	→ 199	–	–	–	–	–	–
Options for retrofitting							
ON FILTER Pico 162	→ 200	•	•	–	–	–	–
ON FILTER Pico/Picotig 180	→ 126	–	–	•	–	–	–
ON FILTER Pico 300	→ 200	–	–	–	•	•	–
Workpiece lead							
WK16QMM KL	→ 200	•	•	•	–	–	–
WK50QMM KL	→ 200	–	–	–	•	•	•
Mains plug							
ADAP SCHUKO/16ACEE	→ 53	•	•	•	–	–	–
5POLE/CEE/16A/M	→ 53	–	–	–	•	•	–
5POLE/CEE/32A/M	→ 22	–	–	–	–	–	•
General							
ADAP 16/25-35 QMM	→ 201	•	•	–	–	–	–
DM1 32L/MIN	→ 23	•	•	•	•	•	–
EH16QMM 4M	→ 200	•	•	•	–	–	–
WK35QMM 4M KL	→ 201	–	–	•	–	–	–
EH35QMM 4M	→ 201	–	–	•	–	–	–
EHS 400/50	→ 201	–	–	–	•	•	•

Machines	Page	Stick 350 cel pws
Set		
SET Pico 162	→ 198	–
SET Pico 162 MV	→ 198	–
Torch		
TIG 17 GDV	→ 198	–
TIG 26GDV	→ 198	–
Remote control		
RT1 19POL	→ 124	–
RTF1 19POL 5M	→ 124	–
RA5 19POL 5M	→ 20	–
RT PWS1 19POL	→ 199	–
FR21 14POL 5M	→ 177	•
FR30 14POL 5M	→ 177	•
FRF30 14POL 5M	→ 199	•
FR35 14POL 5M	→ 199	•
FRA40 14POL 0,3M	→ 199	•
FR30PWS 14POL 5M	→ 199	•
FRF30 PWS 14POL 5M	→ 199	•
Options for retrofitting		
ON FILTER Pico 162	→ 200	–
ON FILTER Pico/Picotig 180	→ 126	–
ON FILTER Pico 300	→ 200	–
Workpiece lead		
WK16QMM KL	→ 200	–
WK50QMM KL	→ 200	•
Mains plug		
ADAP SCHUKO/16ACEE	→ 53	–
5POLE/CEE/16A/M	→ 53	–
5POLE/CEE/32A/M	→ 22	•
General		
ADAP 16/25-35 QMM	→ 201	–
DM1 32L/MIN	→ 23	–
EH16QMM 4M	→ 200	–
WK35QMM 4M KL	→ 201	–
EH35QMM 4M	→ 201	–
EHS 400/50	→ 201	•

Technical data

		Pico 162				Pico 162 MV							
		MMA		TIG		MMA		TIG		MMA		TIG	
Mains voltage	V	230		230		115		115		230		230	
Setting range for welding current	A	10 - 150		10 - 160		10 - 110		10 - 120		10 - 150		10 - 160	
Duty cycle at ambient temperature	°C	25	40	25	40	25	40	25	40	25	40	25	40
30 %	A	–	–	–	160	–	–	–	–	–	–	–	160
35 %	A	–	150	–	–	–	110	–	–	–	150	–	–
40 %	A	–	–	–	–	110	–	–	–	–	–	–	–
45 %	A	–	–	160	–	–	–	–	–	–	–	160	–
50 %	A	150	–	–	–	–	–	–	–	150	–	–	–
60 %	A	–	120	–	130	90	90	120	120	–	120	–	130
100 %	A	120	100	120	100	80	80	110	100	120	100	120	100
Mains frequency	Hz	50 / 60				50 / 60							
Mains fuses (slow-blow)	A	1 x 16				1 x 25				1 x 16			
Mains voltage (tolerances)		1 x 230 V (-40 % - +15 %)				1 x 115 V (-15 % - +15 %)				1 x 230 V (-40 % - +15 %)			
Max. connected load	kVA	5.5		3.7		3.8		2.5		5.5		3.7	
Recommended generator power	kVA	7.5				5.2				7.5			
Dimensions, machine, L x W x H	mm	400 x 115 x 225				400 x 115 x 225							
Weight, machine	kg	4.8				5.1							
Protection classification		IP 23				IP 23							
Insulation class		H				H							
Standards		IEC 60 974-1 / IEC 60 974-10 / CE / S-Safety sign				IEC 60 974-1 / IEC 60 974-10 / CE / S-Safety sign							

		Pico 180				Pico 300 cel				Pico 300 cel pws			
		MMA		TIG		MMA		TIG		MMA		TIG	
Mains voltage	V	230		230		400		400		400		400	
Setting range for welding current	A	5 - 180		5 - 180		10 - 300		5 - 300		10 - 300		5 - 300	
Duty cycle at ambient temperature	°C	25	40	25	40	25	40	25	40	25	40	25	40
25 %	A	180	180	–	–	–	300	–	–	–	300	–	–
30 %	A	–	–	–	–	300	–	–	300	300	–	–	300
35 %	A	–	150	180	–	–	–	–	–	–	–	–	–
40 %	A	–	–	–	–	–	–	300	–	–	–	300	–
60 %	A	–	120	–	150	250	220	260	240	250	220	260	240
100 %	A	–	105	–	120	190	170	200	190	190	170	200	190
Mains frequency	Hz	50 / 60				50 / 60				50 / 60			
Mains fuses (slow-blow)	A	1 x 20				3 x 16				3 x 16			
Mains voltage (tolerances)		1 x 230 V (-40 % - +15 %)				3 x 400 V (-25 % - +20 %)				3 x 400 V (-25 % - +20 %)			
Max. connected load	kVA	7.2		4.6		12.1		–		12.1		–	
Recommended generator power	kVA	9.7				16.4				16.4			
Dimensions, machine, L x W x H	mm	470 x 135 x 250				515 x 185 x 350				515 x 185 x 445			
Weight, machine	kg	7.9				16.5				23.5			
Protection classification		IP 23				IP 23				IP 23			
Insulation class		H				H				H			
Standards		IEC 60 974-1 / IEC 60 974-10 / CE / S-Safety sign				IEC 60 974-1 / IEC 60 974-10 / CE / S-Safety sign				IEC 60 974-1 / IEC 60 974-10 / CE / S-Safety sign			

Technical data

		Stick 350 cel	Stick 350 cel pws
		MMA	MMA
Mains voltage	V	400	400
Setting range for welding current	A	20 - 350	20 - 350
Duty cycle at ambient temperature	°C	40	40
30 %	A	350	350
60 %	A	250	250
100 %	A	190	190
Mains frequency	Hz	50 / 60	50 / 60
Mains fuses (slow-blow)	A	3 x 25	3 x 25
Mains voltage (tolerances)		3 x 400 V (-25 % - +20 %)	3 x 400 V (-25 % - +20 %)
Max. connected load	kVA	17.8	17.8
Recommended generator power	kVA	23.7	23.7
Dimensions, machine, L x W x H	mm	700 x 230 x 455	700 x 230 x 455
Weight, machine	kg	35.5	37.5
Protection classification		IP 23	IP 23
Insulation class		H	H
Standards		IEC 60 974-1 / IEC 60 974-10 / CE / S-Safety sign	IEC 60 974-1 / IEC 60 974-10 / CE / S-Safety sign

Notes

Notes

For more information please visit our website at
www.ewm-group.com
www.ewm-tv.de

EWM HIGHTEC WELDING GmbH
Dr. Günter-Henle-Straße 8
56271 Mündersbach
Germany
Tel: +49 2680 181-0 · Fax: -244
www.ewm-group.com · info@ewm-group.com

EWM Schweißtechnik-Handels-GmbH
In der Florinskaul 14-16
56218 Mülheim-Kärlich · Germany
Tel: +49 261 988898-0 · Fax: -20
www.ewm-group.com/handel · nl-muelheim@ewm-group.com

EWM Schweißtechnik-Handels-GmbH
Sachsstraße 28
50259 Pulheim · Germany
Tel: +49 2234 697-047 · Fax: -048
www.ewm-group.com/handel · nl-koeln@ewm-group.com

EWM HIGHTEC WELDING GmbH
Branch Seesen
Lindenstraße 1a
38723 Seesen-Rhüden · Germany
Tel: +49 5384 90798-0 · Fax: -20
www.ewm-group.com/handel · nl-seesen@ewm-group.com

EWM Schweißtechnik Handels GmbH
Heinkelstraße 8
89231 Neu-Ulm · Germany
Tel: +49 731 7047939-0 · Fax: -15
www.ewm-group.com/handel · nl-ulm@ewm-group.com

EWM HIGHTEC WELDING Sales s.r.o.
Prodejní a poradenské centrum
Tyršova 2106
256 01 Benešov u Prahy · Czech Republic
Tel: +420 317 729-517 · Fax: -712
www.ewm-group.com/cz · sales.cz@ewm-group.com

EWM HIGHTEC WELDING s.r.o.
Tr. 9. kvetna 718 / 31
407 53 Jiříkov · Czech Republic
Tel: +420 412 358-551 · Fax: -20
www.ewm-group.com/cz · info.cz@ewm-group.com

EWM HIGHTEC WELDING GmbH
Fichtenweg 1
4810 Gmunden · Austria
Tel: +43 7612 778 02-0 · Fax: -20
www.ewm-group.com/at · info.at@ewm-group.com

EWM HIGHTEC WELDING UK Ltd.
Unit 2B Coopies Way
Coopies Lane Industrial Estate
Morpeth · Northumberland · NE61 6JN · Great Britain
Tel: +44 1670 505875 · Fax: -514305
www.ewm-group.com/uk · info.uk@ewm-group.com

EWM HIGHTEC WELDING FZCO
Regional Office Middle East
JAFZA View 18 F 14 05 · P.O. Box 262851
Jebel Ali Free Zone · Dubai · United Arab Emirates
Tel: +971 4 8857-789 · Fax: -500
www.ewm-group.com/me · info.me@ewm-group.com

EWM HIGHTEC WELDING (Kunshan) Ltd.
10 Yuanshan Road, Kunshan
New & High-tech Industry Development Zone
Kunshan · Jiangsu · 215300 · People´s Republic of China
Tel: +86 512 57867-188 · Fax: -182
www.ewm-group.com/cn · info.cn@ewm-group.com

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